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UNIVERSITY OF MARYLAND

OFFICIAL PUBLICATION

40

June 15, 1943

No. 3



THE GRADUATE SCHOOL ANNOUNCEMENTS

FOR THE SESSIONS OF
1943-1944

COLLEGE PARK, MARYLAND
JUNE, 1943

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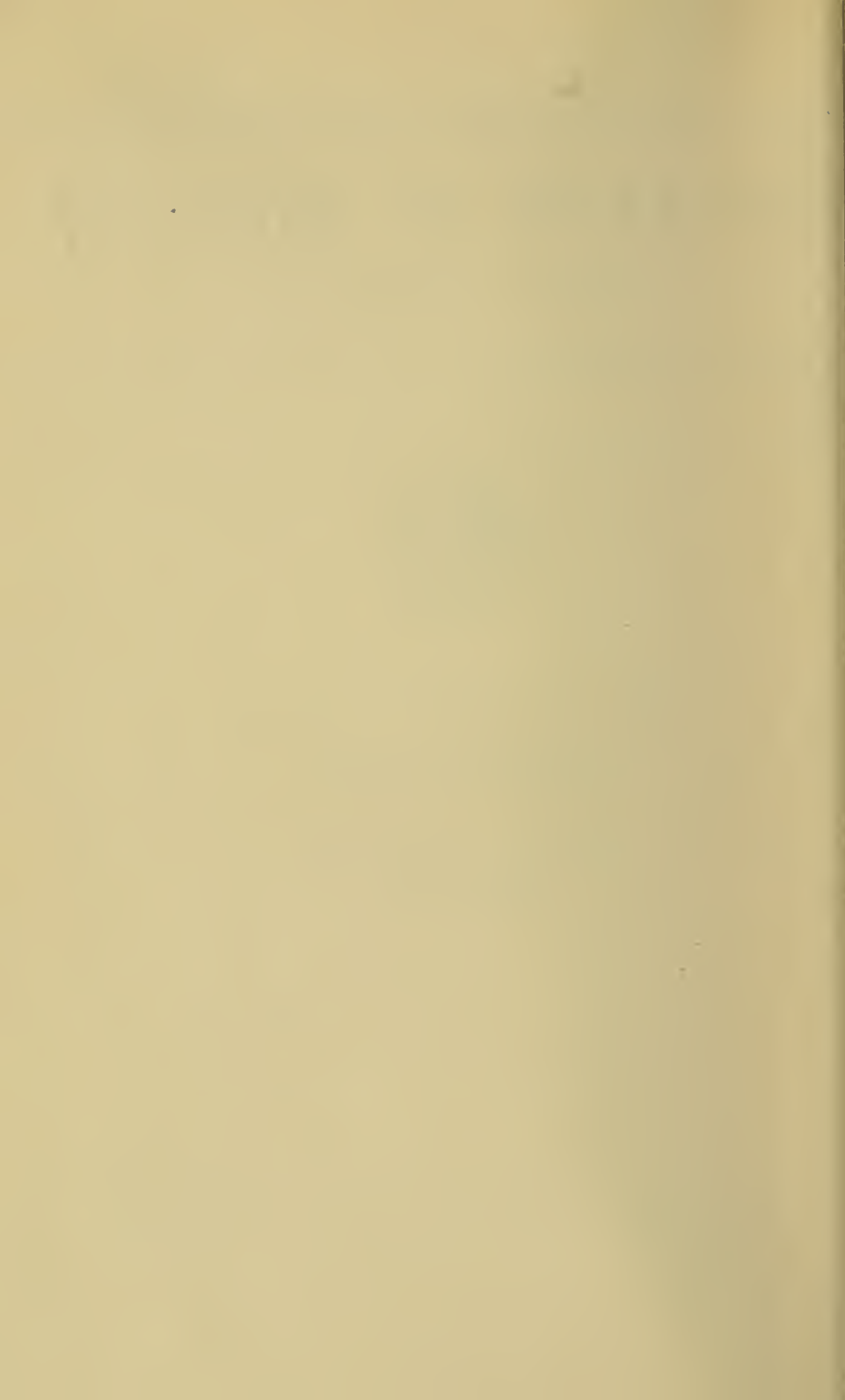


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UNIVERSITY CALENDAR — 1943-1944

COLLEGE PARK

SUMMER QUARTER

1943

June 25-26	Friday-Saturday	Registration for summer quarter
June 28	Monday	Instruction begins for summer quarter
June 30	Wednesday	Registration for six weeks' session
July 1	Thursday	Instruction begins for six weeks' session
July 5	Monday	Holiday
Aug. 13	Friday	Six weeks' session ends
Sept. 6	Monday	Labor Day holiday
Sept. 16	Thursday	Summer quarter ends

FALL QUARTER

Sept. 27-28	Monday-Tuesday	Registration for fall quarter
Sept. 29	Wednesday	Instruction begins
Oct. 2	Saturday	Last day to file applications for Doctor's degree at spring commencement, 1944
Nov. 25-27	Thursday-Saturday	Thanksgiving holiday
Dec. 18	Saturday	Fall quarter ends

WINTER QUARTER

1944

Jan. 3-4	Monday-Tuesday	Registration for winter quarter
Jan. 5	Wednesday	Instruction begins
Feb. 22	Tuesday	Washington's Birthday, holiday
March 24	Friday	Winter quarter ends

SPRING QUARTER

March 31-

April 1	Friday-Saturday	Registration for spring quarter
April 3	Monday	Instruction begins
April 3	Monday	Last day to file applications for admission to candidacy for the Master's degree at spring commencement, 1944
April 7-8	Friday-Saturday	Easter holiday
May 30	Tuesday	Memorial Day, holiday
June 22	Thursday	Spring quarter ends

BOARD OF REGENTS

	Term Expires
HENRY HOLZAPFEL, JR., Chairman.....	1943
Hagerstown, Washington County	
ROWLAND K. ADAMS, Vice-Chairman.....	1948
1808 Fairbank Road, Baltimore	
MRS. JOHN L. WHITEHURST, Secretary.....	1947
4101 Greenway, Baltimore	
J. MILTON PATTERSON, Treasurer.....	1944
1015 Argonne Drive, Northwood, Baltimore	
ROY BROOKS	1951
Bel Air, Harford County	
W. CALVIN CHESNUT.....	1951
Roland Park, Baltimore	
WILLIAM P. COLE, JR.....	1949
Towson, Baltimore County	
PAUL S. KNOTTS.....	1946
Denton, Caroline County	
HARRY NUTTLE	1951
Denton, Caroline County	
JOHN E. SEMMES	1951
100 W. University Parkway, Baltimore	
PHILIP C. TURNER	1950
Parkton, Baltimore County	

ADMINISTRATIVE OFFICERS

H. C. BYRD, LL.D., President of the University
C. O. APPLEMAN, Ph.D., Dean of the Graduate School
ELSIE PARRETT, M.A., Secretary to the Dean
ADELE STAMP, M.A., Dean of Women
H. T. CASBARIAN, B.C.S., C.P.A., Comptroller
ALMA H. PREINKERT, M.A., Registrar
CARL W. E. HINTZ, A.M.L.S., Librarian
T. A. HUTTON, B.A., Purchasing Agent and Manager of
Students' Supply Store

THE GRADUATE COUNCIL

H. C. BYRD, LL.D., President of the University
C. O. APPLEMAN, Ph.D., Dean of the Graduate School, Chairman
HAROLD BENJAMIN,* Ph.D., Professor of Education
A. E. JOYAL, Ph.D., Acting.
L. B. BROUGHTON, Ph.D., Professor of Chemistry
R. B. CORBETT, Ph.D., Director of Experiment Station
E. N. CORY, Ph.D., Professor of Entomology
H. F. COTTERMAN, Ph.D., Professor of Agricultural Education
N. L. DRAKE, Ph.D., Professor of Organic Chemistry
C. B. HALE, Ph.D., Professor of English
L. V. HOWARD, Ph.D., Professor of Political Science
WILBERT J. HUFF, Ph.D., D.Sc., Professor of Chemical Engineering
L. H. JAMES, Ph.D., Professor of Bacteriology
JOHN G. JENKINS,* Ph.D., Professor of Psychology
W. R. CLARK, Ph.D., Acting.
DEVÖE MEADE, Ph.D., Professor of Animal Husbandry
M. MARIE MOUNT, M.A., Professor of Home and Institution Management
H. J. PATTERSON, D.Sc., Dean Emeritus of Agriculture
A. E. ZUCKER, Ph.D., Professor of Modern Languages
WALTER H. HARTUNG, Ph.D., Professor of Pharmaceutical Chemistry
(Baltimore)
EDUARD UHLENHUTH, Ph.D., Professor of Gross Anatomy (Baltimore)

*On military leave.

Office of the Graduate School,
Room 214, Agricultural Building

GENERAL INFORMATION

HISTORY AND ORGANIZATION

In the earlier years of the institution the Master's degree was frequently conferred, but the work of the graduate students was in charge of the departments concerned, under the supervision of the general faculty. The Graduate School of the University of Maryland was established in 1918, and organized graduate instruction leading to both the Master's and the Doctor's degree was undertaken. The faculty of the Graduate School includes all members of the various faculties who give instruction in approved graduate courses. The general administrative functions of the graduate faculty are delegated to a Graduate Council, of which the Dean of the Graduate School is chairman.

LOCATION

The University of Maryland is located at College Park, in Prince George's County, Maryland, on the Baltimore and Ohio Railroad, eight miles from Washington and thirty-two miles from Baltimore. Washington, with its wealth of resources, is easily accessible by train, street car and bus.

The professional schools of Medicine, Nursing, Pharmacy, Dentistry and Law are located in Baltimore, at the corner of Lombard and Greene Streets.

LIBRARIES

In addition to the resources of the University libraries the great libraries of the National Capital are easily available for reference work. Because of the proximity of these libraries to College Park they are a valuable asset to research and graduate work at the University of Maryland.

The library building at College Park contains a number of seminar rooms and other desirable facilities for graduate work.

GENERAL REGULATIONS

ADMISSION

An applicant for admission to the Graduate School must hold a bachelor's or a master's degree from a college or university of recognized standing. The applicant shall furnish an official transcript of his collegiate record which for unconditional admission must show creditable completion of an adequate amount of undergraduate preparation for graduate work in his chosen field. Application for admission to the Graduate School should be made prior to dates of registration on blanks obtained from the office of the Dean.

After approval of the application a matriculation card, signed by the Dean, is issued to the student. This card permits one to register in the Graduate School. After payment of the fee, the matriculation card

is stamped and returned to the student. It is his certificate of membership in the Graduate School and should be retained by the student to present at each succeeding registration.

Admission to the Graduate School does not necessarily imply admission to candidacy for an advanced degree.

REGISTRATION

All students pursuing graduate work in the University, even though they are not candidates for higher degrees, are required to register in the Graduate School at the beginning of each quarter. In no case will graduate credit be given unless the student matriculates and registers in the Graduate School. The program of work for each session is arranged by the student with the major department and entered upon two course cards, which are signed first by the professor in charge of the student's major subject and then by the Dean of the Graduate School. One card is retained by the Dean. The student takes the other card, and in case of a new student, also the matriculation card, to the Registrar's office, where the registration is completed. Students will not be admitted to graduate courses until the Registrar has certified to the instructor that registration has been completed. Course cards may be obtained at the Registrar's office or at the Dean's office. The heads of departments usually keep a supply of these cards in their respective offices.

GRADUATE COURSES

Graduate students must elect for credit in partial fulfillment of the requirements for higher degrees only courses designated For Graduates or For Graduates and Advanced Undergraduates. Students who are inadequately prepared for graduate work in their chosen fields or who lack prerequisites for minor courses may elect a limited number of courses numbered from 1 to 99 in the general catalogue, but graduate credit will not be allowed for these courses. Courses that are audited are registered for in the same way, and at the same fees, as other courses.

PROGRAM OF WORK

The professor who is selected to direct a student's thesis work is the student's adviser in the formulation of a graduate program, including suitable minor work, which is arranged in cooperation with the instructors. To encourage thoroughness in scholarship through intensive application, graduate students in the regular sessions are limited to a program of fifteen credit hours per quarter. If a student is preparing a thesis during the minimum residence for the master's degree, the registration in graduate courses should not exceed twelve hours for the quarter.

GRADUATE WORK IN PROFESSIONAL SCHOOLS AT BALTIMORE

Graduate courses and opportunities for research are offered in some of the professional schools at Baltimore. Students pursuing graduate

work in the professional schools must register in the Graduate School, and meet the same requirements and proceed in the same way, as do graduate students in other departments of the University.

The graduate courses in the professional schools are listed on pages 61 to 66.

GRADUATE WORK BY SENIORS IN THIS UNIVERSITY

A senior of this University who has nearly completed the requirements for the undergraduate degree may, with the approval of his undergraduate dean and the Dean of the Graduate School, register in the undergraduate college for graduate courses, which may later be transferred for graduate credit toward an advanced degree at this University, but the total of undergraduate and graduate courses must not exceed fifteen credits for the quarter. Excess credits in the senior year cannot later be transferred unless such prearrangement is made. Graduate credits earned during the senior year may not be used to shorten the residence period required for advanced degrees.

ADMISSION TO CANDIDACY FOR ADVANCED DEGREES

Application for admission to candidacy for the Master's and for the Doctor's degree is made on application blanks which are obtained at the office of the Dean of the Graduate School. These are filled out in duplicate by the student and submitted to his major department for further action and transmission to the Dean of the Graduate School. An official transcript of the candidate's undergraduate record and any graduate courses completed at other institutions must be on file in the Dean's office before the application can be considered. All applications for admission to candidacy must be approved by the Graduate Council.

Admission to candidacy in no case assures the student of a degree, but merely signifies he has met all the formal requirements and is considered by his instructors sufficiently prepared and able to pursue such graduate study and research as are demanded by the requirements of the degree sought. The candidate must show superior scholarship in graduate work already completed.

Application for admission to candidacy is made at the time stated in the sections dealing with the requirements for the degree sought.

REQUIREMENTS FOR THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

Advancement to Candidacy. Each prospective candidate for the Master's degree is required to make application for admission to candidacy not later than the date when instruction begins for the quarter in which the degree is sought. He must have completed at least twelve quarter hours, but not more than twenty-four quarter hours of graduate work at the University of Maryland. An average grade of "B" in all major and minor subjects is required.

Minimum Residence. A residence of at least three quarters or its equivalent, at this institution, is required.

Course Requirements. A minimum of thirty-six quarter hours, exclu-

sive of research and thesis, with an average grade of "B" in courses approved for graduate credit, is required for the degrees of Master of Arts and Master of Science. At the option of the major department concerned the student may be required also to register for a maximum of nine quarter hours for research and thesis work. The total number of credit hours required for the degree would then be forty-five. If the student is inadequately prepared for the required graduate courses, either in the major or minor subjects, additional courses may be required to supplement the undergraduate work. Of the thirty-six hours required in graduate courses, not less than eighteen quarter hours and not more than twenty-four quarter hours must be earned in the major subject. The remaining credits must be outside the major subject and must comprise a group of coherent courses intended to supplement and support the major work. Not less than one-half of the total required course credits for the degree, or a minimum of eighteen, must be selected from courses numbered 200 or above. No credit for the degree of Master of Arts or Master of Science may be obtained for correspondence or extension courses. The entire course of study must constitute a unified program approved by the student's major adviser and by the Dean of the Graduate School.

Transfer of Credit. Credit not to exceed nine quarter hours, obtained at other recognized institutions, may be transferred and applied to the course requirements of the Master's degree, provided that the work was of graduate character, and provided that it is approved for inclusion in the student's graduate program at the University of Maryland. This transfer of credit is submitted to the Graduate Council for approval when the student applies for admission to candidacy for the degree. Acceptance of the transferred credit does not reduce the minimum residence requirement. The candidate is subject to final examination by this institution in all work offered for the degree.

Thesis. In addition to the thirty-six quarter hours in graduate courses a satisfactory thesis is required of all candidates for the degrees of Master of Arts and Master of Science. It must demonstrate the student's ability to do independent work and it must be acceptable in literary style and composition. It is assumed that the time devoted to thesis work will be not less than the equivalent of nine quarter hours earned in graduate courses. With the approval of the student's major professor and the Dean of the Graduate School, the thesis in certain cases may be prepared *in absentia* under direction and supervision of a member of the faculty of this institution.

The original copy of the thesis must be deposited in the office of the Graduate School not later than two weeks before the convocation at which the degree is sought. The thesis should not be bound by the student, as the University later binds all theses uniformly. An abstract of the contents of the thesis, 200 to 250 words in length, must accompany it. A manual giving full directions for the physical make-up of the thesis is in the hands of each professor who directs thesis work, and should be consulted by the student before the typing of the manu-

script is begun. Individual copies of this manual may be obtained by the student at the Dean's office, at nominal cost.

Final Examination. The final oral examination is conducted by a committee appointed by the Dean of the Graduate School. The student's adviser acts as the chairman of the committee. The other members of the committee are persons under whom the student has taken most of his major and minor courses. The chairman and the candidate are notified of the personnel of the examining committee at least one week prior to the period set for oral examinations. The chairman of the committee selects the exact time and place for the examination and notifies the other members of the committee and the candidate. The examination should be conducted within the dates specified at the end of the quarter, but upon recommendation of the student's adviser, an examining committee may be appointed by the Dean of the Graduate School at any time when all other requirements for the degree have been completed. A report of the committee is sent to the Dean as soon as possible after the examination. A special form for this purpose is supplied to the chairman of the committee. Such a report is the basis upon which recommendation is made to the faculty that the candidate be granted the degree sought. The period for the oral examination is usually about one hour, but the time should be long enough to insure an adequate examination.

The examining committee also approves the thesis, and it is the candidate's obligation to see that each member of the committee has ample opportunity to examine a copy of the thesis prior to the date of the examination.

A student will not be admitted to final examination until all other requirements for the degree have been met. In addition to the oral examination a comprehensive written examination may be required at the option of the major department.

REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

Course Requirements. Forty-five quarter hours of course work are required, which may include courses in departments other than Education not to exceed one-half of the total forty-five hours, such courses to be selected in conformity with the student's special needs as agreed upon by the student and his adviser. Of the forty-five hours, not less than one-half must be on the 200 level.

At least six of the forty-five hours must be seminar work, which shall include one or more seminar papers in the student's major field of concentration in the Department of Education.

Included in the program must be courses in educational statistics and in procedure of educational research.

The requirements in regard to advancement to candidacy, transfer of credits, and final oral examination are the same as for the degrees of Master of Arts and Master of Science.

REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION

The work for this degree is planned on a basis of two years of full time work, eighty-one quarter hours of course work, and a satisfactory thesis. The requirement of eighty-one quarter hours may be reduced if the entering student has already completed a substantial amount of satisfactory advanced work in economics and business administration. The student should consult the Dean of the College of Business and Public Administration for the evaluation of previous work.

Since the purpose of the study recognized by this degree is to obtain a well-rounded rather than a highly specialized training in business administration, the student's graduate program of study should provide graduate work in each important field of business administration and economics.

The minimum course requirements and all other requirements are the same as for the degrees of Master of Arts and Master of Science.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Advancement to Candidacy. Candidates for the Doctor's degree must be admitted to candidacy at least three quarters before the final examination. Applications for admission to candidacy for the Doctor's degree are filled out by the student and submitted to his major department for further action and transmission to the Dean of the Graduate School.

The applicant must have obtained from the head of the Modern Language Department a statement that he possesses a reading knowledge of French and German. Preliminary examinations or such other substantial tests as the departments may elect are also required for admission to candidacy.

Residence. The equivalent of three years (nine quarters) of full time graduate study and research is required. Of the three years the equivalent of at least one year must be spent in residence at this university. On a part-time basis the time needed will be correspondingly increased. All work at other institutions offered in partial fulfillment of the requirements for the Ph.D. degree is submitted to the Graduate Council for approval, upon recommendation of the department concerned, when the student applies for admission to candidacy for the degree.

The Doctor's degree is not given merely as a certificate of residence and work, but is granted only upon sufficient evidence of high attainments in scholarship, and ability to carry on independent research in the special field in which the major work is done.

Major and Minor Subjects. The candidate must select a major and one or two closely related minor subjects. At least thirty-six quarter hours, exclusive of research, are required in minor work. The remainder of the required residence is devoted to intensive study and research in the major field. The amount of required course work in the major subject will vary with the department and the individual candidate. The candidate must register for a minimum of eighteen quarter hours of research.

Thesis. The ability to do independent research must be shown by a

dissertation on some topic connected with the major subject. An original typewritten copy and two clear, plain carbon copies of the thesis, together with an abstract of the contents, 250 to 500 words in length, must be deposited in the office of the Dean at least three weeks before commencement. It is the responsibility of the student also to provide copies of the thesis for the use of the members of the examining committee prior to the date of the final examination.

The original copy should not be bound by the student, as the university later binds uniformly all theses for the general university library. The carbon copies are bound by the student in cardboard covers which may be obtained at the students' supply store. The abstracts are published biennially by the university in a special bulletin.

A manual giving full directions for the physical make-up of the thesis is in the hands of each professor who directs thesis work, and should be consulted by the student before typing of the thesis is begun. Students may obtain copies of this manual at the Dean's office, at nominal cost.

Final Examination. The final oral examination is held before a committee appointed by the Dean. One member of this committee is a representative of the graduate faculty who is not directly concerned with the student's graduate work. One or more members of the committee may be persons from other institutions who are distinguished scholars in the student's major field.

The duration of the examination is approximately three hours, and covers the research work of the candidate as embodied in his thesis, and his attainments in the fields of his major and minor subjects. The other detailed procedures are the same as those stated for the Master's examination.

RULES GOVERNING LANGUAGE EXAMINATIONS FOR CANDIDATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

1. A candidate for the Doctor's degree must show in a written examination that he possesses a reading knowledge of French and German. The passages to be translated will be taken from books and articles in his specialized field. Some 300 pages of text from which the applicant wishes to have his examination chosen should be submitted to the head of the Department of Modern Languages at least three days before the examination. The examination aims to test ability to use the foreign language for research purposes. It is presumed that the candidate will know sufficient grammar to distinguish inflectional forms and that he will be able to translate readily in two hours about 500 words of text, with the aid of a dictionary.

2. Application for admission to these tests must be filed in the office of the Department of Modern Languages at least three days in advance of the tests.

3. No penalty is attached to failure in the examination, and the unsuccessful candidate is free to try again at the next date set for these tests.

4. Examinations are held near the office of the Department of Modern Languages, on the first Wednesday of each quarter, at 2 p. m.

GRADUATE FEES

The fees paid by graduate students are as follows:

All Students:

A matriculation fee of \$10.00. This is paid once only, upon admission to the Graduate School.

A diploma fee (Master's degree), \$10.00.

A graduate fee, including hood (Doctor's degree), \$20.00.

College Park:

A fixed charge, each quarter, of \$4.00 per quarter credit hour for students carrying eight hours or less; for students carrying more than eight hours, \$34.00 for the quarter.

Laboratory fees range from \$2.00 to \$8.00 per course per quarter.

Living Expenses and Self Help:

Board and lodging are available in many private homes in College Park and vicinity. The cost of board and room ranges from about \$40.00 to \$50.00 a month, depending on the desires of the individual. A list of accommodations is maintained in the offices of the Dean of Women and the Dean of Men.

Application for student employment, aside from fellowships and assistantships, may be made through the offices of the Dean of Men and the Dean of Women, or to department heads.

FELLOWSHIPS AND ASSISTANTSHIPS

Fellowships. A number of fellowships have been established by the University. The stipend for the University fellows is \$400 to \$500 and the remission of all graduate fees except the diploma fee. Several industrial fellowships, with varying stipends, are also available in certain departments.

Fellows are required to render minor services prescribed by their major departments. The usual amount of service required does not exceed twelve clock hours per week. Fellows are permitted to carry a full graduate program, and they may satisfy the residence requirement for higher degrees in the normal time.

Scholarships. A limited number of scholarships are available, carrying a stipend of from \$150 to \$200, without remission of fees. Scholarships are awarded on the basis of ability and of financial need. Scholars carry full time work and only minor services are required by the departments.

Application for fellowships and scholarships are made on blanks which may be obtained from the office of the Graduate School. The application, with the necessary credentials, is sent by the applicant directly to the Dean of the Graduate School. Applications which are approved by the Dean are forwarded to the departments, where final selection of the fellows and scholars is made. The awards of University fellowships and scholarships are on a competitive basis.

Graduate Assistantships. A number of teaching and research graduate assistantships are available in several departments. The compensation for these assistantships is \$600 to \$1000 a year and the remission of all graduate fees except the diploma fee. Graduate assistants are appointed for one year (four quarters) and are eligible to reappointment. The assistant in this class devotes one-half of his time to instruction or to research in connection with Experiment Station projects, and he is required to spend two years in residence for the Master's degree. If he continues in residence for the Doctor's degree, the minimum residence requirements from the Bachelor's degree may be satisfied in twelve quarters.

Applications for graduate assistantships are made directly to the departments concerned, and appointments are made through the regular channels for staff appointments. Further information regarding these assistantships may be obtained from the department or college concerned.

COMMENCEMENT

Attendance is required at the commencement at which the degree is conferred.

Application for diploma must be filed in the office of the Registrar eight weeks before the convocation at which the candidate expects to obtain a degree.

Academic costume is required of all candidates at commencement. Those who so desire may purchase or rent caps and gowns at the Students' Supply Store. Order must be filed eight weeks before the date of convocation but may be cancelled later if the student finds himself unable to complete his work for the degree.

A time schedule, supplementing this bulletin, is issued shortly before the beginning of each quarter, showing the hours and location of class meetings. This schedule is available at the office of the Graduate School, or the office of the Registrar.

The provisions of this bulletin are not to be regarded as an irrevocable contract between the student and the University. The University reserves the right to change any provision or requirement at any time within the student's term of residence.

DESCRIPTION OF COURSES

For the convenience of students in making out schedules of studies, the subjects in the following Description of Courses are arranged alphabetically:

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METHOD OF NUMBERING COURSES AND COUNTING CREDIT HOURS

Courses for Graduates and Advanced Undergraduates are numbered 100 to 199; Courses for Graduates only are numbered 200 and upwards.

A course with a single number extends through one quarter.

A course with a double number extends through two quarters.

A course with a triple number extends through three quarters.

The number of quarter hours' credit is shown by the arabic numeral in parentheses after the title of the course.

Examples.

Course 101. Title (3). Fall quarter. Prerequisite.

If a laboratory course:

Course 101. Title (3). One lecture and two laboratory periods a week, fall quarter.

(This is a one-quarter course, offered once a year.)

Course 101. Title (3). Fall and winter quarters. Prerequisite.

(This is a quarter course, repeated each quarter indicated, and except for research, seminar, and certain special problem courses, may be taken only one quarter.)

Course 103, 104. Title (6). Three hours a week, winter and spring quarters. Prerequisite.

If a laboratory course:

Course 103, 104. Title (6). One lecture and two laboratory periods a week, fall and winter quarters.

(This is a course extending through two quarters, and completion of both quarters is required.)

Course 103, 104. Title (6). Three hours a week, fall and winter quarters; spring and summer quarters.

(This is a course extending through two quarters, and it is repeated for the two quarters indicated.)

Course 105, 106, 107. Title (9). Three hours a week, fall, winter, and spring quarters. Prerequisite.

If a laboratory course:

Course 105, 106, 107. Title (9). One lecture and two laboratory periods a week, fall, winter, and spring quarters.

(This is a course extending through three quarters, and completion of all three quarters is required.)

Course 105, 106, 107. Title (3, 3, 3). Three hours a week, fall, winter, and spring quarters.

(This is a course extending through three quarters, but with the permission of the instructor, credit may be obtained for any quarter separately.)

Course 108 a, b, c. Title (9). Three hours a week, fall, winter, and spring quarters.

(This is an alternate way of listing a three quarter course.)

AGRICULTURAL ECONOMICS AND FARM MANAGEMENT

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- A. E. 100. Farm Economics (3). Fall quarter. Prerequisites, Econ. 31, 32, 33, or Econ. 37. DeVault.
- A. E. 101. Marketing of Farm Products (3). Winter quarter. Prerequisites, Econ. 31, 32, 33, or Econ. 37. DeVault.
- A. E. 102. Marketing of Farm Products (3). Spring quarter. Prerequisites, Econ. 31, 32, 33, or Econ. 37. DeVault.
- A. E. 103. Cooperation in Agriculture (3). Fall quarter. Poffenberger.
- A. E. 104. Farm Finance (3). Spring quarter. Poffenberger.
- A. E. 105. Food Products Inspection (2). One lecture and one laboratory period a week, summer quarter. Staff.
- A. E. 106. Prices of Farm Products (3). Two lectures and one laboratory period a week, winter quarter. Poffenberger.
- A. E. 107. Analysis of the Farm Business (3). One lecture and two laboratory periods a week, winter quarter. Hamilton.
- A. E. 108. Farm Management (3). Spring quarter. Hamilton.
- A. E. 109. Research Problems (1-2). Fall, winter, spring, and summer quarters. DeVault.
- A. E. 111. Land Economics (3). Fall quarter.
- A. E. 112. Agricultural Policy (3). Spring quarter. Poffenberger.
- A. E. 113. Types of Farming (2). Fall quarter. Hamilton.

FOR GRADUATES

- A. E. 200. Special Problems in Farm Economics (2-4). Winter and spring quarters. DeVault.
- A. E. 202. Seminar (1-3). Fall, winter and spring quarters. DeVault.
- A. E. 203. Research. Credit according to work accomplished. DeVault.
- A. E. 210. Taxation in Relation to Agriculture (3). Spring quarter. Walker.
- A. E. 211. Agricultural Taxation in Theory and Practice (3). Two lectures and one laboratory period a week, fall quarter. Walker.
- A. E. 212. Land Resources (3). Two double lecture periods a week, fall quarter. Baker.
- A. E. 213. Land Utilization (3). Two double lecture periods a week, winter quarter. Prerequisite, A. E. 212 desirable.
- A. E. 214. Consumption of Farm Products and Standards of Living (3). Spring quarter. Baker.
- A. E. 215. Advanced Agricultural Cooperation (3). Winter quarter. Poffenberger.

AGRICULTURAL EDUCATION AND RURAL LIFE

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- R. Ed. 107. Observation and Analysis of Teaching for Agricultural Students (4). Three lectures and one laboratory period a week, winter quarter. Cotterman.
- R. Ed. 109. Teaching Secondary Vocational Agriculture (5). Winter quarter. Prerequisite, R. Ed. 107. Cotterman.
- R. Ed. 110. Rural Life and Education (3). Spring quarter. Cotterman.
- R. Ed. 112. Departmental Management (1). Spring quarter. Prerequisites, R. Ed. 107, 109. Cotterman.
- R. Ed. 114. Teaching Farm Mechanics in Secondary Schools (1). Spring quarter. Prerequisites, Ag. Eng. 54, R. Ed. 107. Carpenter.

FOR GRADUATES

- R. Ed. 201, 202, 203. Rural Life and Education (3, 3, 3). Fall, winter and spring quarters. Prerequisite, R. Ed. 110, or equivalent. Cotterman.
- R. Ed. 207, 208, 209. Problems in Vocational Agriculture, Related Science, and Shop (2, 2, 2). Fall, winter, and spring quarters. Cotterman.
- R. Ed. 250. Seminar in Rural Education (1-3). Fall, winter, spring, and summer quarters. Cotterman.
- R. Ed. 251. Research. Credit according to work done. Cotterman.

AGRONOMY

A. Crops

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Agron. 103. Crop Breeding (3). Fall quarter. Prerequisite, Zool. 104. Kemp.

FOR GRADUATES

- Agron. 201. Crop Breeding (3-6). Credits determined by work accomplished. Kemp.
- Agron. 203. Seminar (1). One report period a week, fall, winter and spring quarters. Staff.
- Agron. 209. Research. Credits determined by work accomplished. Staff.

B. Soils

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Soil 102. Soil Management (3). Two lectures and one laboratory period a week, winter quarter. Prerequisite, Soils 1. Thomas.
- Soils 112. Soil Conservation (3). Fall quarter. Thomas.

FOR GRADUATES

Soils 201. Special Problems and Research.

Soils 202. Soil Science (3). Two lectures and one laboratory period a week, fall quarter. Prerequisites, Geology 1, Soils 1. and Chemistry 1. Thomas.

Soils 203. Soil Science (3). Two lectures and one laboratory period a week, winter quarter. Thomas.

Soils 204. Soil Science (3). Two lectures, and one laboratory period a week, spring quarter. Prerequisite, Bact. 1. Thomas.

ANIMAL HUSBANDRY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

A. H. 112. Livestock Markets and Marketing (2). Fall quarter. * Prerequisite, A. H. 2. Leinbach.

A. H. 114. Animal Nutrition (3). Fall quarter. Prerequisites, Chem. 13, 14, 15, 16, and A. H. 52. Meade.

A. H. 116. Light Horse Production (1). Fall quarter. Finney, Brueckner, Outhouse.

A. H. 117. Advanced Light Horse Production (1). Spring quarter. Prerequisite, A. H. 116. Finney, Brueckner, Outhouse.

FOR GRADUATES

A. H. 201. Special Problems in Animal Husbandry. Credit in proportion to work accomplished. Fall, spring and summer quarters. Staff.

A. H. 202. Seminar (1). Fall and spring quarters. Staff.

A. H. 203. Research. Credit in proportion to work accomplished. Staff.

A. H. 204. Advanced Breeding (2). Spring quarter. Prerequisites, Zool. 104 and A. H. 53. Meade.

A. H. 206, 207. Advanced Livestock Management (3, 3). Two lectures and one laboratory period a week, fall and winter quarters. Leinbach.

BACTERIOLOGY

A. Bacteriology

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Bact. 101. Milk Bacteriology (5). Three lectures and two laboratory periods a week, fall and spring quarters. Prerequisites, Bact. 1 and 5. Hansen.

- Bact. 102. Dairy Products Bacteriology (4).** Two lectures and two laboratory periods a week, winter and summer quarters. Prerequisites, Bact. 1 and 5; Bact. 101 desirable. Hansen.
- Bact. 111. Food Bacteriology (5).** Three lectures and two laboratory periods a week, winter and summer quarters. Prerequisites, Bact. 1 and 5. James.
- Bact. 112. Sanitary Bacteriology (4).** Two lectures and two laboratory periods a week, fall and spring quarters. Prerequisites, Bact. 1 and 5. Hansen.
- Bact. 115. Serology (5).** Three lectures and two laboratory periods a week, fall and spring quarters. Prerequisite, Bact. 2. Goldsmith.
- Bact. 116. Epidemiology (3).** Winter quarter. Offered in alternate years. Prerequisite, Bact 1, and credit or concurrent registration in Bact. 2 or 2A.
- Bact. 118. Systematic Bacteriology (3).** Summer quarter. Offered in alternate years. Prerequisite, 10 hours of bacteriology. James.
- Bact. 125. Clinical Methods (2).** Two laboratory periods, fall and spring quarters. Prerequisite, Bact. 2 or 5, and consent of instructor.

FOR GRADUATES

- Bact. 211. Bacterial Metabolism (3).** Winter quarter. Prerequisites, Bact. 1, Chem. 13, 14, 15, 16. Hansen.
- Bact. 212. Advanced Food Bacteriology (4).** Two lectures and two laboratory periods, spring quarter. Prerequisite, Bact. 111, or, equivalent. James.
- Bact. 216. Advanced Serology (3).** Winter quarter. Prerequisite, Bact. 115, or equivalent.
- Bact. 221. Research.** Credit to be determined by amount and character of work accomplished. Staff.
- Bact. 231. Seminar (2).** Summer, fall, winter, and spring quarters. Staff.

B. Food Technology

- F. Tech. 100. Food Microscopy (3).** Two laboratory periods a week, fall and spring quarters. James.
- F. Tech. 108. Preservation of Poultry Products (3).** One lecture and two laboratory periods a week, spring quarter. Prerequisite, Bact. 1. James.
- F. Tech. 110. Regulatory Control (1).** One lecture and demonstration a week, summer quarter. James.

- F. Tech. 120. Food Sanitation (3). Two four-hour laboratory periods a week, fall quarter.
- F. Tech. 130. Technology Conference (1). Winter and summer quarters. James.

BOTANY

A. General Botany and Morphology

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Bot. 101. Plant Anatomy (3). One lecture and two laboratory periods a week, fall quarter. Prerequisite, Bot. 51. Bamford.
- Bot. 104. Advanced Plant Taxonomy (3). One lecture and two laboratory periods a week, summer quarter. Prerequisite, Bot. 50. Brown.
- Bot. 105. Structure of Economic Plants (2). Two laboratory periods a week, winter quarter. Prerequisite, Bot. 101. Bamford, Jones.
- Bot. 106. History and Philosophy of Botany (1). Winter quarter. Staff.

FOR GRADUATES

- Bot. 201. Cytology (5). Two lectures and two laboratory periods a week, spring quarter. Prerequisites, Bot. 51, Zool. 104, or equivalent. Bamford.
- Bot. 202. Plant Morphology (2). Two laboratory periods a week, spring quarter. Prerequisites, Bot. 50, 101, or equivalent. Bamford.
- Bot. 203. Seminar (1). Fall, winter, and spring quarters. Prerequisite, permission of instructor. Bamford.
- Bot. 204. Research. Credit according to work done. Bamford.

B. Plant Pathology

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Plt. Path. 101. Diseases of Special Crops (3). Fall quarter. Woods, Jehle, Cox, Jeffers.
- Plt. Path. 108. Mycology (5). Two lectures and two laboratory periods a week, spring quarter. Prerequisite, Bot. 2. Woods.

FOR GRADUATES

- Plt. Path. 201. Virus Diseases (2-3). Two lectures, or two lectures and one laboratory period a week, spring quarter. Woods.
- Plt. Path. 205. Research. Credit according to work done. Staff.
- Plt. Path. 206. Plant Disease Control (3). Winter quarter. Prerequisite, Bot. 20. Jeffers, Jehle, Cox, Woods.
- Plt. Path. 209. Seminar (1). Fall, winter, and spring quarters. Woods.

C. Plant Physiology**FOR GRADUATES AND ADVANCED UNDERGRADUATES**

- Plt. Phys. 101. Plant Physiology (5). Two lectures, and two laboratory periods a week, fall quarter. Prerequisite, Bot. 1. Brown.
- Plt. Phys. 102. Plant Ecology (3). Two lectures and one laboratory period a week, summer quarter. Prerequisites, Bot. 1 and Bot. 50. Brown.

FOR GRADUATES

- Plt. Phys. 201. Plant Biochemistry (4). (Not offered in 1943-1944.) Appleman, Shirk.
- Plt. Phys. 202 A. Plant Biophysics (2). Fall quarter. Prerequisites, Bot. 1, Plt. Phys. 101, or equivalent. Appleman.
- Plt. Phys. 202 B. Biophysical Methods (2). (Not offered in 1943-1944.) Shirk.
- Plt. Phys. 203. Plant Metabolism (3). Prerequisite, an elementary knowledge of plant physiology and organic chemistry. (Not offered in 1943-1944.) Appleman.
- Plt. Phys. 204. Growth and Development (2). Prerequisite, 18 hours of plant science. (Not offered in 1943-1944.) Appleman.
- Plt. Phys. 205. Seminar (1). Winter and spring quarters. Appleman.
- Plt. Phys. 206. Research. Credit according to work done. Staff.

BUSINESS AND PUBLIC ADMINISTRATION; ECONOMICS**A. Economics**

See also related courses in Agricultural Economics

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Econ. 130. Economics of Consumption (3). Spring quarter. Prerequisite, Econ. 33 or 37.
- Econ. 131. Comparative Economic Systems (4). Fall quarter. Prerequisite, Econ. 33 or 37. Gruchy.
- Econ. 132. Advanced Economic Principles (4). Spring quarter. Prerequisite, Econ. 33 or 37. Gruchy.
- Econ. 134. Contemporary Economic Thought (4). Spring quarter. Prerequisite, Econ. 33 or 37. Gruchy.
- Econ. 135. Economic Institutions and War (4). Summer quarter. Prerequisite, Econ. 33 or 37. Gruchy.
- Econ. 140. Money and Banking (4). Fall, spring, and summer quarters. Prerequisite, Econ. 33 or 37. Dockeray.
- Econ. 141. Theory of Money, Credit, and Prices (4). Fall quarter. Prerequisites, Econ. 33 and 140. Gruchy.

- Econ. 150. Marketing Principles and Organization (4).** Fall, spring, and summer quarters. Prerequisite, Econ. 33 or 37. Pyle, Markey.
- Econ. 151. Economics of Cooperatives (3).** Winter quarter. Prerequisite, Econ. 33 or 37.
- Econ. 160. Labor Economics (4).** Fall, winter, and summer quarters. Prerequisite, Econ. 33 or 37.
- Econ. 170. Industrial Combination and Competition (4).** Spring quarter. Prerequisite, Econ. 33 or 37. Dillard, Clemens.
- Econ. 171. Economics of American Industry (4).** Winter quarter. Prerequisite, Econ. 33 or 37. Clemens.

FOR GRADUATES

- Econ. 230. History of Economic Thought (4).** Fall quarter. Prerequisite, Econ. 132. Dillard.
- Econ. 231. Economic Theory in the Nineteenth Century (4).** Winter quarter. Prerequisite, Econ. 230, or consent of the instructor. Dillard.
- Econ. 237. Seminar in Economic Investigation (3).** Fall, winter, and spring quarters. Staff.
- Econ. 240. Comparative Banking Systems (4).** Winter quarter. Gruchy.
- Econ. 270. Seminar in Economics of American Industries (3).** Arranged. Prerequisite, Econ. 171, and consent of the instructor. Clemens.
- Econ. 299. Thesis.** Credit according to size and importance of project. Staff.

B. Business Administration

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- B. A. 120. Intermediate Accounting (5).** Fall and summer quarters. Prerequisite, B. A. 21. Staff.
- B. A. 121. Cost Accounting (5).** Winter quarter. Prerequisite, B. A. 21. Staff.
- B. A. 122. Auditing Theory and Practice (5).** Spring quarter. Prerequisite, B. A. 120. Staff.
- B. A. 123. Income Tax Accounting (5).** Fall quarter. Prerequisite, B. A. 120. Staff.
- B. A. 124. Advanced Accounting (5).** Summer and winter quarters. Prerequisite, B. A. 120. Staff.
- B. A. 125. C. P. A. Problems (5).** Spring quarter. Prerequisite, consent of the instructor. Staff.
- B. A. 130. Elements of Statistics (4).** Fall, spring and summer quarters. Markey, Shirley.

- B. A. 131. Business Statistics (4). Winter and summer quarters. Prerequisite, B. A. 130. Markey, Shirley.
- B. A. 132, 133. Advanced Business Statistics (4, 4). Four hours a week, fall and winter quarters. Prerequisite, B. A. 131. Markey, Shirley.
- B. A. 140. Financial Management (4). Winter and summer quarters. Prerequisite, Econ. 140. Dockeray.
- B. A. 141. Investment Management (4). Winter quarter. Prerequisite, B. A. 140. Dockeray.
- B. A. 142. Banking Policies and Practices (4). Spring quarter. Prerequisite, Econ. 140. Dockeray.
- B. A. 143. Credit Management (3). Spring quarter. Prerequisite, B. A. 140. Dockeray.
- B. A. 144. Life, Group, and Social Insurance (3). Fall and summer quarters. Prerequisite, Econ. 33 or 37. Dockeray.
- B. A. 145. Property, Casualty, and Liability Insurance (3). Winter quarter. Prerequisite, Econ. 33 or 37. Dockeray.
- B. A. 146. Real Estate Financing and Appraisals (3). Spring quarter. Prerequisites, Econ. 33 or 37, B. A. 156. Dockeray.
- B. A. 147. Business Cycle Theory (4). Spring quarter. Prerequisites, Econ. 140, B. A. 131 recommended. Dillard.
- B. A. 150. Marketing Management (4). Fall, winter, and summer quarters. Prerequisite, Econ. 150. Pyle.
- B. A. 151. Advertising Programs and Campaigns (3). Fall quarter. Prerequisite, B. A. 150. Markey.
- B. A. 152. Advertising Copy Writing and Layout (3). Winter quarter. Prerequisite, B. A. 151. Markey.
- B. A. 153. Purchasing Organization, Policy and Procedure (3). Spring quarter. Prerequisite, B. A. 150. Markey.
- B. A. 154. Retail Store Management and Merchandising (4). Spring quarter. Prerequisite, Econ. 150. Markey.
- B. A. 156. Real Estate Principles and Practice (3). Fall quarter. Prerequisite, Econ. 33 or 37. Dockeray.
- B. A. 157. Foreign Trade Procedure (4). Winter quarter. Prerequisite, B. A. 150.
- B. A. 160. Personnel Management (4). Winter and spring quarters. Prerequisite, Econ. 160.
- B. A. 162. Contemporary Trends in Labor Relations (3). Prerequisite, B. A. 160. (Not offered in 1943-1944.)
- B. A. 163. Industrial Relations (3). Winter quarter. Prerequisite, Econ. 160.
- B. A. 165. Office Management (3). Fall and spring quarters. Prerequisite, B. A. 10. Dockeray, Patrick.

- B. A. 170. Industrial Management (4). Spring quarter. Prerequisites, B. A. 11 and 12, and B. A. 160.
- B. A. 171. Transportation II (4). Spring quarter. Prerequisite, P. A. 170.
- B. A. 172. Transportation III (4). Summer quarter. Prerequisite, B. A. 171.
- B. A. 173. Transportation IV (4). Prerequisite, P. A. 170. (Not offered in 1943-1944.)
- B. A. 180, 181, 182. Business Law I, II, III (3, 3, 3). Three hours a week, fall, winter and spring quarters. Shirley.
- B. A. 183. Legal Aspects of Accounting (3). Spring quarter. Prerequisite, B. A. 180. Benton.
- B. A. 186. Real Estate Law and Conveyancing (3). Prerequisite, B. A. 156. (Not offered in 1943-1944.)

FOR GRADUATES

- B. A. 220. Managerial Accounting (4). (Not offered in 1943-1944.)
- B. A. 228. Research in Accounting. Arranged. Staff.
- B. A. 229. Studies of Special Problems in the Fields of Control, Organization, Management, and Administration. Arranged.
- B. A. 240. Seminar in Financial Management, Policies, and Management (1-3). Prerequisites, Econ. 140, B. A. 22, B. A. 140. Dockeray.
- B. A. 250. Problems in Sales Management (3). Spring quarter. Pyle.
- B. A. 251. Problems in Advertising (3). (Not offered in 1943-1944.)
- B. A. 252. Problems in Retail Store Management (3). Spring and summer quarters. Markey.
- B. A. 257. Seminar in Marketing Organization, Management and Administration. Arranged. Staff.
- B. A. 258. Research in Marketing. Arranged. Staff.
- B. A. 262. Seminar in Contemporary Trends in Labor Relations. (Not offered in 1943-1944.)
- B. A. 266. Research in Personnel Management. (Not offered in 1943-1944.)
- B. A. 267. Research in Industrial Relations. (Not offered in 1943-1944.)
- B. A. 269. Studies in Special Problems in Employer-Employee Relationships. (Not offered in 1943-1944.)
- B. A. 299. Thesis. Arranged. Staff.

C. Public Administration

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- P. A. 124. Governmental Accounting (4). Winter quarter. Prerequisite, B. A. 120. Rayson.

- P. A. 130. International Economic Policies and Relations (4). Prerequisites, Econ. 33 or 37, Econ. 131 recommended. (Not offered in 1943-1944.)
- P. A. 137. Economic Planning and Post-War Problems (4). Winter quarter. Prerequisite, Econ. 33 or 37. Econ. 131 recommended.
Gruchy.
- P. A. 140. Public Finance and Taxation (4). Spring quarter. Prerequisite, Econ. 33 or 37.
Gruchy.
- P. A. 141. International Finance and Exchange (4). Spring quarter. Prerequisite, Econ. 140, Econ. 141 recommended.
- P. A. 161. Recent Labor Legislation and Court Decisions (4). Prerequisite, Econ. 160, B. A. 160 recommended. (Not offered in 1943-1944.)
- P. A. 170. Transportation I (4). Prerequisite, Econ. 33 or 37. (Not offered in 1943-1944.)
- P. A. 180. Governmental Control of Business (4). Fall quarter. Prerequisite, Econ. 33 or 37. Shirley, Dillard.
- P. A. 184. The Government and Public Utilities (4). Spring quarter. Prerequisite, Econ. 33 or 37. Clemens.

FOR GRADUATES

- P. A. 284. Seminar in Public Utilities. Credit arranged. Prerequisites, P. A. 184 and consent of the instructor. Clemens.
- P. A. 299. Thesis. Arranged. Staff.

D. Natural and Human Resources

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- N. H. R. 100. Physical Resources of the United States and Canada (4). Fall quarter. Baker.
- N. H. R. 101. Land Utilization and Settlement in the United States and Canada (3). Winter quarter. Baker.
- N. H. R. 102. Trends in Production and Consumption of Farm and Forest Products in the United States and Canada (3). Spring quarter. Baker.
- N. H. R. 103. Mineral Resources and Their Utilization in the United States and Canada (3). Winter quarter. Hess.
- N. H. R. 105. The People of the United States and Canada (3). Two lectures and one laboratory period a week. (Not offered in 1943-1944.)
- N. H. R. 110. The Geographic Background of Modern Problems (3). Fall and summer quarters. de Terra.
- N. H. R. 111. Geography of Europe (3). Two lectures and one laboratory period a week, fall and summer quarters. de Terra.
- N. H. R. 112. Geography of Southern Asia (3). Two lectures and one laboratory period a week, winter and spring quarters. de Terra.
- N. H. R. 113. The Soviet Union (3). Spring quarter. de Terra.

- N. H. R. 114. Landforms and Map Orientation (3). Two lectures and one laboratory period a week, fall and winter quarters. de Terra.

FOR GRADUATES

- N. H. R. 210. Geographical Seminar (2). Arranged. Baker, Zucker.
N. H. R. 299. Thesis. Arranged. Staff.

CHEMICAL ENGINEERING

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Ch. E. 103 a, b, c. Elements of Chemical Engineering (9). Three credit hours per quarter. Prerequisite, Chem. 1, 2, Physics 3, 4, 5. Part c, summer quarter, 1943. Part a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.
- Ch. E. 104 a, b, c. Chemical Engineering Seminar (3). One credit hour per quarter. Part c, summer quarter, 1943. Part a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.
- Ch. E. 105 a, b, c. Advanced Unit Operations (15). Two lectures and three laboratory periods a week. Prerequisites, Ch. E. 103 a, b, c, Chemistry 102A, 103A, 104A. Part c, summer quarter, 1943. Part a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.
- Ch. E. 106 a, b, c. Minor Problems (18). Six credit hours per quarter. Prerequisite Ch. E. 105, a, b, c, or simultaneous registration therein. (Not offered in 1943-1944.)
- Ch. E. 107 a, b, c. Fuels and Their Utilization (6). Two credit hours per quarter. Prerequisite, Ch. E. 103 a, b, c, or permission of department of Chemical Engineering. (Not offered in 1943-1944.)
- Ch. E. 108 a, b, c. Chemical Technology (6). Two credit hours per quarter. Prerequisite, Ch. E. 103 a, b, c, or simultaneous registration therein, or permission of department of Chemical Engineering. Part c, summer quarter, 1943. Part a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.
- Ch. E. 109 a, b, c. Chemical Engineering Thermodynamics (6). Two credit hours per quarter. Prerequisites, Physical Chemistry 102A, 103A, 104A, Ch. E. 103 a, b, c, or permission of instructor. Part c, summer quarter, 1943. Part a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.
- Ch. E. 110 a, b, c. Chemical Engineering Calculations (9). Three credit hours per quarter. Prerequisites, Math. 20, Ch. E. 103 a, b, c. Part c, summer quarter, 1943. Part a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.
- Ch. E. 111 a, b, c. Explosives and Toxic Gases (6). Two credit hours per quarter. Prerequisites, Organic Chemistry 10, 11, Physical Chemistry 102A, 103A, 104A. Part c, summer quarter, 1943. Part

a, fall quarter, 1943. Part b, winter quarter, 1943-1944. Part c, spring quarter, 1944.

FOR GRADUATES

- CH. E. 201 a, b, c. Graduate Unit Operations. Five credit hours or more per quarter. Prerequisite, permission of department of Chemical Engineering.
- Ch. E. 202. Gas Analysis (3). One lecture and two laboratory periods a week. Prerequisite, permission of department of Chemical Engineering.
- Ch. E. 203. Graduate Seminar (1). One credit hour per quarter. Required of all graduate students in Chemical Engineering.
- Ch. E. 205. Research in Chemical Engineering. Credit hours to be arranged.
- Ch. E. 207A, 208A, 209A. Plant Design Studies (9). Three credit hours per quarter. Prerequisite, permission of department of Chemical Engineering.
- Ch. E. 207B, 208B, 209B. Plant Design Studies Laboratory (6). Two credit hours per quarter. Prerequisite, permission of department of Chemical Engineering.
- Ch. E. 210 a, b, c. Gaseous Fuels (6). Two credit hours per quarter. Prerequisite, permission of department of Chemical Engineering.

CHEMISTRY

A. General Chemistry

FOR GRADUATES

- Chem. 200A, 201A. The Chemistry of the Rarer Elements (6). Three hours a week, fall and winter quarters. Prerequisite, Chem. 4.
White.
- Chem. 200B, 201B. Advanced Inorganic Chemistry (4). Two laboratory periods a week, fall and winter quarters. Prerequisite, consent of the instructor.
White.
- Chem. 202. An Introduction to Spectrographic Analysis (2). Two laboratory periods a week, winter and spring quarters. Prerequisite, consent of instructor.
White.
- Chem. 233. Inorganic Microanalysis (3). Three laboratory periods a week. Prerequisites, Chem. 4 and Chem, 8, 9. (Not offered in 1943-1944.)

B. Analytical Chemistry

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Chem. 130, 131. Chemical Microscopy (6). One lecture and two laboratory periods a week, fall and winter quarters. Prerequisite, consent of the instructor.
Svirbely.

FOR GRADUATES

- Chem. 240. Chemical Microscopy I (3).** One lecture and two laboratory periods a week, fall quarter. Prerequisite, consent of the instructor. Svirbely.
- Chem. 241. Chemical Microscopy II (3).** One lecture and two laboratory periods a week, winter quarter. Prerequisite, Chem. 240. Svirbely.
- Chem. 243, 244. Special Problems in Quantitative Analysis (6).** Three laboratory periods a week, fall and winter quarters. Prerequisite, Chem. 8, 9. Svirbely.

C. Organic Chemistry

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Chem. 116, 117. Advanced Organic Chemistry (6).** Three hours a week, fall and winter quarters; spring and summer quarters. Prerequisites, Chem. 10, 11 and Chem. 12, 13. Drake.
- Chem. 118, 119. Organic Laboratory (6).** One lecture and two laboratory periods a week, fall and winter quarters; spring and summer quarters. Prerequisite, Chem. 116, 117.
- Chem. 120, 121. Advanced Organic Laboratory (6).** Three laboratory periods a week, fall and winter quarters; spring and summer quarters. Prerequisite, Chem. 116, 117.

FOR GRADUATES

Note: The general prerequisite for the remaining courses in this section is Chem. 116, 117. Of the courses numbered 203A, 203B, 203C, 235A, 235B, and 235C, one course will be offered each term except the summer quarter.

- Chem. 203A. Stereochemistry (2).** Drake.
- Chem. 203B. The Polyene Pigments and Certain Vitamins (2).** Drake.
- Chem. 203C. Sterols and Sex Hormones (2).** Drake.
- Chem. 205. Organic Preparations (3-5).** Three to five laboratory periods a week, fall, winter, spring and summer quarters.
- Chem. 206. Organic Microanalysis (5).** Five laboratory periods a week, fall and winter quarters. Prerequisite, consent of the instructor. Drake.
- Chem. 207. Organic Qualitative Analysis (3-5).** Three to five laboratory periods a week, fall, winter, spring, and summer quarters.
- Chem. 209. The Chemistry and Biochemistry of Certain Enzymes and Polysaccharides (3).** (Not offered in 1943-1944.)
- Chem. 210. Advanced Organic Laboratory (3-5).** Three to five laboratory periods a week, fall, winter, spring, and summer quarters. Prerequisites, Chem. 205 and Chem. 207.
- Chem. 235A. The Chemistry of Certain Nitrogen Compounds (2).**
- Chem. 235B. Physical Aspects of Organic Chemistry (2).** Oesper.
- Chem. 235C. The Heterocyclics (2).**

D. Physical Chemistry

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Chem. 102A, 103A, 104A. Physical Chemistry (9). Three hours a week, fall, winter, and spring quarters. Prerequisites, Chem. 7 or 8, 9, Physics 3, 4, 5, and Math 21. Haring.
- Chem. 102B, 103B, 104B. Physical Chemistry Laboratory (6). Two laboratory periods a week, fall, winter, and spring quarters. Prerequisites, Chem. 102A, 103A, 104A. Oesper.
- Chem. 105A, 106A, 107A. Elements of Physical Chemistry (6). Two hours a week, fall, winter, and spring quarters. Prerequisites, Chem. 1 a, b, Physics 1, 2, Math. 10 and Math 11. Oesper.
- Chem. 105B, 106B, 107B. Elements of Physical Chemistry Laboratory (3). One laboratory period a week, fall, winter, and spring quarters. Prerequisite, Chem. 105A, 106A, 107A. Oesper.

FOR GRADUATES

Note. The general prerequisites for courses in this group are Chem. 102A, 103A, 104A, and Chem. 102B, 103B, 104B.

- Chem. 204 a, b. Theory of Solutions (6). Three hours a week, fall and winter quarters. Svirbely.
- Chem. 212A, 213A. Colloid Chemistry (6). Three hours a week, fall and winter quarters. Haring.
- Chem. 212B. Colloid Chemistry Laboratory I (2). Two laboratory periods a week, fall quarter. Haring.
- Chem. 213B. Colloid Chemistry Laboratory II (2). Two laboratory periods a week, winter quarter. Haring.
- Chem. 214. Structure of Matter (3). Spring quarter. Oesper.
- Chem. 215. Valence Theory (3). Winter quarter. Oesper.
- Chem. 216. Phase Rule (3). (Not offered in 1943-1944.) Haring.
- Chem. 217. Catalysis (3). (Not offered in 1943-1944.) Haring.
- Chem. 218. Reaction Kinetics I (3). (Not offered in 1943-1944.) Oesper.
- Chem. 219. Reaction Kinetics II (3). (Not offered in 1943-1944.) Oesper.
- Chem. 220A, 221A. Electrochemistry (6). Three hours a week. (Not offered in 1943-1944.) Haring.
- Chem. 220B. Electrochemistry Laboratory I (3). Three laboratory periods a week. (Not offered in 1943-1944.) Haring.
- Chem. 221B. Electrochemistry Laboratory II (3). Three laboratory periods a week. (Not offered in 1943-1944.) Haring.
- Chem. 226, 227. Chemical Thermodynamics (6). Three hours a week, winter and spring quarters. Haring.
- Chem. 246. Quantum and Statistical Mechanics (3). Fall quarter. Oesper.

E. Biological Chemistry**FOR GRADUATES AND ADVANCED UNDERGRADUATES**

- Chem. 109A. **Physiological Chemistry (3).** Winter quarter. Prerequisites, Chem. 10, 11, or Chem. 14, 15. Creech.
- Chem. 109B. **Physiological Chemistry Laboratory I (2).** Two laboratory periods a week, winter quarter. Prerequisites, Chem. 12, 13, or Chem. 16, 17. Creech.
- Chem. 110B. **Physiological Chemistry Laboratory II (2).** Two laboratory periods a week, spring quarter. Prerequisite, Chem. 109B. Creech.
- Chem. 122, 123. **Food Analysis (6).** Three laboratory periods a week, fall and winter quarters; spring and summer quarters. Prerequisites, Chem. 14, 15, and Chem. 16, 17. Wiley.

FOR GRADUATES

- Chem. 208. **Biological Analysis (3).** Three laboratory periods a week, fall and winter quarters. Prerequisites, Chem. 14, 15, and Chem. 16, 17. Wiley.
- Chem. 222A. **Advanced Physiological Chemistry I (3).** Fall quarter. Prerequisite, Chem. 10, 11. Creech.
- Chem. 223A. **Advanced Physiological Chemistry II (3).** Winter quarter. Prerequisite, Chem. 222A. Creech.
- Chem. 222B. **Advanced Physiological Chemistry Laboratory I (2).** Two laboratory periods a week, fall quarter. Prerequisite, Chem. 12, 13.
- Chem. 223B. **Advanced Physiological Chemistry Laboratory II (2).** Two laboratory periods a week, winter quarter. Prerequisite, Chem. 222B. Creech.
- Chem. 224. **Special Problems (3-6).** Three to six laboratory periods a week. Arranged. Prerequisite, consent of instructor. Creech, Wiley.

F. Seminar and Research**FOR GRADUATES**

- Chem. 228. **Seminar (1).** Fall, winter and spring quarters. Staff.
- Chem. 229. **Research in Chemistry.** Credit according to work. Staff.

CLASSICAL LANGUAGES**FOR GRADUATES AND ADVANCED UNDERGRADUATES**

- Latin 121. **Roman Prose Writers (5).** Prerequisite, 10 quarter hours beyond Latin 3. (Not offered in 1943-1944.) Highby.
- Latin 122. **Roman Satire (5).** Prerequisite, 10 quarter hours beyond Latin 3. (Not offered in 1943-1944.) Highby.
- Latin 131. **The Historian Tacitus (5).** Spring quarter. Prerequisite, 10 quarter hours beyond Latin 3. Banta.

- Latin 132. Martial, Selected Epigrams (5). Prerequisite, 10 quarter hours beyond Latin 3. (Not offered in 1943-1944.) Banta.
- Latin 141. Lucretius, De Rerum Natura (5). Prerequisite, 10 quarter hours beyond Latin 3. (Not offered in 1943-1944.) Highby.
- Latin 152. Catullus (5). Summer quarter. Prerequisite, 10 quarter hours beyond Latin 3.
- Latin 171. History of the Latin Language (3). Prerequisite, 10 quarter hours beyond Latin 3, or special permission of the instructor. (Not offered in 1943-1944.) Banta.
- Latin 172. Medieval Latin (3). Summer quarter. Prerequisite, 10 quarter hours beyond Latin 3. Banta.

COMPARATIVE LITERATURE

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Comp. Lit. 101. Introductory Survey of Comparative Literature (3). Winter quarter. Zucker.
- Comp. Lit. 102. Introductory Survey of Comparative Literature (3). Spring quarter. Zucker.
- Comp. Lit. 103. Chaucer (3). (Not offered in 1943-1944.) Hale.
- Comp. Lit. 104. The Old Testament as Literature (3). Spring quarter. Hale.
- Comp. Lit. 105. Romanticism in France (3). Winter quarter. Wilcox.
- Comp. Lit. 106. Romanticism in Germany (3). Spring quarter. Prahl.
- Comp. Lit. 107. The Faust Legend in English and German Literature (3). Fall quarter. Prahl.
- Comp. Lit. 108. Milton (3). Fall quarter. Same as Eng. 108. Smith.
- Comp. Lit. 109. Cervantes (5). Fall quarter. Same as Spanish 115.
- Comp. Lit. 110. Introduction to Folklore (3). (Not offered in 1943-1944.) Robertson.
- Comp. Lit. 111. A Study of Literary Criticism (5). (Not offered in 1943-1944.) Murphy.
- Comp. Lit. 112. Ibsen (4). Fall quarter. Zucker.
- Comp. Lit. 113, 114. Prose and Poetry of the Romantic Age (3, 3). Fall and winter quarters. Same as Eng. 113, 114. Hale.
- Comp. Lit. 124. Contemporary Drama (5). Fall quarter. Same as Eng. 124. Fitzhugh.
- Comp. Lit. 125. Emerson, Thoreau, and Whitman (3). Summer quarter. Same as Eng. 125. Warfel.

FOR GRADUATES

- Comp. Lit. 200. The History of the Theatre (3). (Not offered in 1943-1944.) Hale.

- Comp. Lit. 201. Medieval Romance in England (3). Same as Eng. 204.
(Not offered in 1943-1944.) Hale.
- Comp. Lit. 203. Schiller (5). Winter quarter. Same as German 203.
Prahl.
- Comp. Lit. 204. Goethe's *Faust* (3). Fall quarter. Same as Ger-
man 204. Zucker
- Comp. Lit. 205. Georges Duhamel, Poet, Dramatist, Novelist (5). Fall
quarter. Same as Fr. 204. Falls.
- Comp. Lit. 206. Seminar in Sixteenth Century Literature (3). Fall
quarter. Same as Eng. 205. Zeeveld.
- Comp. Lit. 207. Seminar in Shakespeare (3). Winter quarter. Same
as Eng. 207. Zeeveld.

DAIRY HUSBANDRY

- D. H. 101. Dairy Production (4). Three lectures and one laboratory
period a week, fall semester. Prerequisites, D. H. 1, and A. H. 52.
Turk.
- D. H. 105. Dairy Breeds and Breeding (3). Two lectures and one lab-
oratory period a week, winter quarter. Prerequisites, D. H. 1, Zool.
104, A. H. 53. Berry.
- D. H. 109. Cheese Making (4). One lecture and three laboratory pe-
riods a week, fall quarter. Prerequisites, D. H. 1, Bact. 1, and
Bact. 5. Hughes.
- D. H. 110. Butter Making (2). One lecture and one laboratory period
a week, fall quarter. Prerequisites, D. H. 1, Bact. 1, and Bact. 5.
England.
- D. H. 111. Concentrated Milks (3). One lecture and two laboratory
periods a week, spring quarter. Prerequisites, D. H. 1, Bact. 1, and
Bact. 5. England.
- D. H. 112. Ice Cream Making (4). One lecture and three laboratory
periods a week, winter quarter. Prerequisites, D. H. 1, Bact. 1, and
Bact. 5. England.
- D. H. 113. Market Milk (5). Three lectures and two laboratory periods
a week, fall quarter. Prerequisites, D. H. 1, Bact. 1, and Bact. 5.
England.
- D. H. 114. Analysis of Dairy Products (5). Two lectures, and three
laboratory periods a week, winter quarter. Prerequisites, D. H. 1,
Bact. 1, Bact. 5, Chem. 4, 12, 13, 15 and 16. England.
- D. H. 119, 120, 121. Dairy Literature (1, 1, 1). Fall, winter and spring
quarters. Prerequisite, D. H. 1. England, Berry, Turk.
- D. H. 123. Methods of Dairy Research (2-5). Summer, fall, winter,
and spring quarters. England, Berry, Turk, Moore.

FOR GRADUATES

- D. H. 201. Advanced Dairy Production (3). Fall quarter. Turk, Moore.
- D. H. 202. Dairy Technology (3). Fall quarter. England.
- D. H. 203. Milk Products (2). Winter quarter. England.
- D. H. 204. Special Problems in Dairying (2-5). Summer, fall, winter, and spring quarters. Staff.
- D. H. 205. Seminar (1). Fall, spring and winter quarters. Staff.
- D. H. 208. Research. Credit to be determined by amount and quality of work done. Staff.

EDUCATION

A student in Education has the option of qualifying for the degree of Master of Arts or for the degree of Master of Education. (For requirements see pages 9-11.)

Special Departmental Requirements and Information

MASTER OF ARTS AND MASTER OF EDUCATION

Students who do not complete the requirements for Master's degree within six years of the date of matriculation may be required to take supplementary course work at the rate of three quarter hours for each year the completion of the course requirements is deferred beyond six years, or to take special examinations based upon up-to-date materials in courses more than six years old.

A qualifying written examination is required of all candidates for a degree, to be taken after the student has successfully completed fifteen quarter hours, and before he has completed twenty-eight hours (Master of Arts), or thirty-eight hours (Master of Education). This examination covers the general information a student should have in the field of education and in his minor field. To assist in a choice of reading in preparation for the examination, a list has been prepared and is available in the office of the College of Education. The examination is usually given on the first Saturday in December, February and June, simultaneously at College Park and Baltimore.

Candidates for the degree of Master of Education who are high school teachers not preparing for administrative positions are expected to take at least eighteen quarter hours in their subject fields.

In addition to the general requirements for admission, applicants for unconditional admission with a major in Education must have had twenty-four quarter hours of undergraduate work in Education of acceptable quality, equivalent in character to the twenty-four hours required in the junior and senior years of the University of Maryland.

DOCTOR OF PHILOSOPHY

The Department of Education offers work towards the degree of Doctor of Philosophy with major or minor in the following fields:

a. General Education: includes history of education, comparative education, educational sociology, secondary education, elementary education, and adult education.

b. Educational Administration: includes organization and administration of elementary, secondary, and higher education; school finance, business administration of schools; and supervision of elementary and secondary schools.

c. Curriculum and Instruction: includes principles of curriculum making, special methods and curricula in various fields, guidance, and research studies in the teaching of special subjects.

In addition to the general university requirements for the degree the following additional requirements must be met by students proposing to major in one of the above fields:

1. Qualifying examination, oral or written, or both, at the discretion of the department, covering student's undergraduate and first year of graduate preparation in education and related fields, to be taken as soon as possible after completion of the first year of graduate work and in any event required before receiving the department's official permission to take work beyond the Master's degree with the purpose of applying for candidacy for the doctorate.

2. The preliminary examination for admission to candidacy for the Ph.D. degree will include a written examination covering the student's preparation in major and minor fields, and an oral examination covering his plan of research for the doctoral dissertation.

A. History and Principles

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Ed. 100. History of Education in the United States (3). Winter and summer quarters.
- Ed. 102. History of Modern Education (3). Fall and spring quarters.
- Ed. 103. Theory of the Senior High School (3). Fall, spring, and summer quarters. Joyal.
- Ed. 105. Educational Measurements (3). Winter and summer quarters. Prerequisite, consent of instructor. Brechbill, Cain.
- Ed. 107. Comparative Education (3). (Not offered in 1943-1944.) Benjamin.
- Ed. 108. Comparative Education (3). (Not offered in 1943-1944.) Benjamin.
- Ed. 110. Theory of the Junior High School (3). Spring and summer quarters. Joyal.
- Ed. 112. Educational Sociology—Introductory (3). Winter and spring quarters. Schindler.
- Ed. 114. Guidance in the Schools (3). Fall and summer quarters. Schindler.

FOR GRADUATES

- Ed. 200. *The Organization and Administration of Public Education* (3).
Fall and summer quarters. Joyal.
- Ed. 202. *The Organization, Administration, and Supervision of Secondary Schools* (3). Winter and summer quarters. (Not offered in summer of 1943.) Joyal.
- Ed. 203. *High School Supervision* (3). Spring quarter. Joyal.
- Ed. 216. *School Finance and Business Administration* (3). Summer quarter. Joyal.
- Ed. 299. *Research*. Staff.

Students qualifying for the degree of Master of Education will elect the required six quarter hours of seminar work from the following list of seminars (Ed. 220-Ed. 234, inclusive). These courses are open for election by any other graduate student.

- Ed. 220. *Seminar in Secondary Education* (3). Fall, winter, and summer quarters. Schindler.
- Ed. 222. *Seminar in Adult Education* (3). (Not offered in 1943-1944.) Benjamin.
- Ed. 224. *Seminar in History of Education* (3). Spring quarter.
- Ed. 226. *Seminar in Administration* (3). Fall and summer quarters. Joyal.
- Ed. 228. *Seminar in Special Education* (3). Spring and summer quarters. Cain.
- Ed. 230. *Seminar in Science Education* (3). Fall quarter. Brechbill.
- Ed. 232. *Seminar in Educational Sociology* (3). Spring quarter. Schindler.
- Ed. 234. *Seminar in Comparative Education* (3). (Not offered in 1943-1944.) Benjamin.
- Ed. B 236. *Seminar in Vocational Education* (3), commonly given in the Baltimore division, may be used to satisfy this requirement.

B. Methods and Curricula in High School Subjects

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Graduate credit for courses in this section will be given only by special permission of the Department of Education and the Graduate School.

- Ed. 120. *Curriculum, Instruction, and Observation—English* (5). Twenty periods of observation, fall, winter, spring, and summer quarters.
- Ed. 122. *Curriculum, Instruction, and Observation—Social Studies* (5). Twenty periods of observation, fall, winter, spring, and summer quarters.
- Ed. 124. *Curriculum, Instruction, and Observation—Foreign Languages* (5). Twenty periods of observation, fall, winter, spring, and summer quarters.

Ed. 126. Curriculum, Instruction, and Observation—Science (5). Twenty periods of observation, fall, winter, spring, and summer quarters. Brechbill.

Ed. 128. Curriculum, Instruction, and Observation—Mathematics (5). Twenty periods of observation, fall and spring quarters. Brechbill.

Ed. 138. Visual Education (3). Fall and summer quarters. Brechbill.

C. Commercial Education

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Ed. 150. Curriculum, Instruction, and Observation—Commercial Subjects (5). Twenty periods of observation, fall, winter, spring, and summer quarters. Patrick.

D. Home Economics Education

FOR GRADUATES AND ADVANCED UNDERGRADUATES

H. E. Ed. 101. Curriculum, Instruction, and Observation—Home Economics (5). Fall, winter, spring, and summer quarters. McNaughton.

H. E. Ed. 105. Special Problems, Child Study (5). Spring and summer quarters. McNaughton.

FOR GRADUATES

H. E. Ed. 201. Advanced Methods of Teaching Home Economics (3-5). Fall, winter, spring, and summer quarters. McNaughton.

H. E. Ed. 250. Seminar in Home Economics Education (3-5). Fall, winter, spring, and summer quarters. McNaughton.

E. Industrial Education

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Ind. Ed. 160. Essentials of Design (3). Fall and spring quarters. Prerequisites, Ind. Ed. 1, 2, or equivalent. Gallington.

Ind. Ed. 162. Curriculum, Instruction, and Observation—Industrial Education (5). Twenty periods of observation, winter quarter. Brown, Gallington.

Ind. Ed. 164. Shop Organization and Management (3). Summer quarter. Brown.

For courses offered in Baltimore address Professor Glen D. Brown, Department of Industrial Education, University of Maryland, Lombard and Greene Streets, Baltimore, Maryland.

ENGLISH LANGUAGE AND LITERATURE

Requirements for Advanced Degrees with major in English (in addition to the general requirements of the Graduate School).

MASTER OF ARTS

1. Candidates for the degree of Master of Arts in the Department of English must demonstrate a reading knowledge of French or German at the time of admission, or not later than six months before taking the degree.

2. In the thesis the candidate will be expected to demonstrate his ability to use the ordinary methods of research in the discovery of knowledge and to organize and present his findings in a clear, effective English style.

3. The final examination will be based in part upon the courses pursued and in part upon first-hand knowledge of all the literary works included in the departmental list of reading for the Master's degree. The examination will test the candidate's powers of analysis and criticism.

Major work in the department may be elected in any of the following fields, the requirements of which are listed below.

a. Major work in English literature: Old English, and at least nine hours from seminar courses in Medieval Romance, the Elizabethan period, the Eighteenth Century, the Romantic period, the Victorian period.

b. Major work in American literature: the seminar in American literature, and at least nine hours from the advanced undergraduate courses in American literature.

c. Major work in Drama: History of the Theatre, and at least nine hours from the following. Introduction to Comparative Literature (first quarter), Medieval Drama, Elizabethan Drama, Modern Drama, Contemporary Drama, American Drama, The Faust Legend, The Modern German Drama, Spanish Drama, Ibsen.

d. Major work in philology: Old English, Beowulf, Seminar in Old English Poetry, Middle English, Gothic, and either Medieval Romance or Chaucer.

e. Major work, designed chiefly for teachers in secondary schools: Old English, and at least nine hours from the following groups: Elizabethan Drama, or an Elizabethan seminar; Milton; the Eighteenth Century; either Prose and Poetry of the Romantic Age or Seminar in the Romantic Period; Contemporary American Prose and Poetry or the American seminar; Victorian Prose and Poetry or seminar in the Victorian Period; Advanced Writing.

DOCTOR OF PHILOSOPHY

Each candidate must have the following courses:

a. Five credit hours in Comparative Literature.

b. Six credit hours in Old English, Eng. 102, 103, and 212.

c. Six credit hours in the Middle English Language, Eng. 202, and Gothic, Eng. 203.

Candidates must pass a comprehensive written examination one year

before they expect to be awarded degrees. This examination will include linguistics (morphology and phonology) and each of the major literary fields, from which the candidate may select two for particularly detailed examination, specifically: Old English, Middle English, the Drama, the Sixteenth and Seventeenth Centuries, the Eighteenth Century, the Nineteenth Century, American Literature.

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Eng. 101. History of the English Language (5). Winter and summer quarters. Prerequisite, Eng. 15. Harman.
- Eng. 102. Old English (3). Fall quarter. Prerequisite, Eng. 15. Ball.
- Eng. 103. Beowulf (3). Spring quarter. Prerequisite, Eng. 102. Ball.
- Eng. 104. Chaucer (3). Prerequisites, Eng. 4, 5, 6. (Not offered in 1943-1944.) Hale.
- Eng. 105. Medieval Drama in England (3). Prerequisites, Eng. 4, 5, 6. (Not offered in 1943-1944.)
- Eng. 106. Elizabethan Drama (5). Spring quarter. Prerequisite, Eng. 4, 5, 6. Zeeveld.
- Eng. 107. Renaissance Poetry and Prose (3). Prerequisites, Eng. 4, 5, 6. (Not offered in 1943-1944.) Zeeveld.
- Eng. 108. Milton (3). Fall quarter. Prerequisites, Eng. 4, 5, 6. Smith.
- Eng. 109. Literature of the Seventeenth Century in 1660 (3). Winter quarter. Prerequisites, Eng. 4, 5, 6. Smith.
- Eng. 111, 112. Literature of the Eighteenth Century (3, 3). Winter and spring quarters. Prerequisites, Eng. 4, 5, 6. Fitzhugh.
- Eng. 113, 114. Prose and Poetry of the Romantic Age (3, 3). Fall and winter quarters. Prerequisites, Eng. 4, 5, 6. Hale.
- Eng. 116, 117. Victorian Prose and Poetry (3, 3). Summer and fall quarters. Prerequisites, Eng. 4, 5, 6. Weeks.
- Eng. 118. Modern and Contemporary British Poets (3). Prerequisites, Eng. 4, 5, 6. (Not offered in 1943-1944.) Murphy.
- Eng. 123. Modern Drama (3). Summer quarter. Prerequisites, Eng. 4, 5, 6. Fitzhugh.
- Eng. 124. Contemporary Drama (5). Fall quarter. Prerequisites, Eng. 4, 5, 6. Fitzhugh.
- Eng. 125. Emerson, Thoreau, and Whitman (3). Summer quarter. Prerequisites, Eng. 11, 12. Warfel.
- Eng. 126. American Fiction (3). Prerequisites, Eng. 11, 12. (Not offered in 1943-1944.) Warfel.
- Eng. 127. Contemporary American Poetry and Prose (3). Prerequisites, Eng. 11, 12. (Not offered in 1943-1944.) Warfel.
- Eng. 128. American Drama (3). Prerequisites, Eng. 11, 12. (Not offered in 1943-1944.) Warfel.

- Eng. 135. Introduction to Creative Writing (3). Fall and spring quarters. Prerequisites, Eng. 4, 5, 6. Macleod.
- Eng. 136. Magazine Writing (2). Summer quarter. Prerequisites, Eng. 4, 5, 6. Macleod.
- Eng. 137. Advanced Creative Writing (2). Winter quarter. Prerequisite, Eng. 135 or 136; open to other students by permission of the instructor after submission of an original composition. Macleod.
- Eng. 140. Major American Poets (3). Fall quarter. Prerequisites, Eng. 4, 5, 6. Warfel.
- Eng. 141. Major American Prose Writers (3). Prerequisites, Eng. 4, 5, 6. (Not offered in 1943-1944.) Warfel.

FOR GRADUATES

- Eng. 200. Seminar in Special Studies (2-5). Staff.
- Eng. 201. Research. Staff.
- Eng. 202. Middle English Language (3). Prerequisites, Eng. 102 and 103. (Not offered in 1943-1944.) Harman.
- Eng. 203. Gothic (3). Prerequisite, Eng. 102. (Not offered in 1943-1944.) Harman.
- Eng. 204. Medieval Romance in England (3). Summer quarter. Hale.
- Eng. 205. Seminar in Sixteenth Century Literature (3). Fall quarter. Zeeveld.
- Eng. 207. Seminar in Shakespeare (3). Winter quarter. Prerequisites, Eng. 11, 12 or equivalent. Zeeveld.
- Eng. 208. Seminar in Eighteenth Century Literature (3). Spring quarter. Fitzhugh.
- Eng. 209. Seminar in American Literature (3). Summer quarter. Warfel.
- Eng. 210. Seminar in Romantic Period (3). Winter quarter. Prerequisites, Eng. 113, 114, or equivalent satisfactory to the instructor. Hale.
- Eng. 211. Seminar in the Victorian Period (2-3). Spring quarter. Prerequisites, Eng. 116, 117, or the permission of the instructor. Smith.
- Eng. 212. Old English Poetry (2-3). Prerequisite, Eng. 102, or equivalent. (Not offered in 1943-1944.) Ball.
- Eng. 213. Bibliography (2). Fall quarter. Smith.

ENTOMOLOGY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Ent. 101. Economic Entomology (3). (Not offered in 1943-1944.) Cory.
- Ent. 103, 104. Insect Pests (4, 4). Two lectures and two laboratory periods a week, winter and spring quarters. Prerequisite, Ent. 1. Cory.
- Ent. 105. Medical Entomology (3). Two lectures and one laboratory period a week, spring and summer quarters. Cory.

- Ent. 109. Insect Physiology (3). Three lectures a week and occasional demonstrations, fall quarter. Yeager.
- Ent. 112. Seminar (1-3). Fall, winter and spring quarters. Cory.

FOR GRADUATES

- Ent. 201. Advanced Entomology. Credit and prerequisites to be arranged. Fall, winter, spring, and summer quarters. Cory.
- Ent. 202. Research. Cory.
- Ent. 203. Insect Morphology (3-5). Fall quarter. Snodgrass.
- Ent. 205. Insect Ecology (3). One lecture and two laboratory periods a week, winter quarter. Langford.
- Ent. 206. Coccidology (3). Three laboratory periods a week, winter quarter. McConnell.

HISTORY

Special Departmental Requirements for Degrees, in Addition to the General Requirements of the Graduate School

MASTER OF ARTS

Twelve to fifteen quarter hours of the total major course requirements of all candidates for this degree must be acquired in the general field of the thesis, i.e., either American or European History.

DOCTOR OF PHILOSOPHY

1. At least forty-five quarter hours of the total major course requirements must be acquired in the general field of the thesis, i.e., American History or European History.

2. At least fifteen quarter hours of the forty-five required for a minor in history must be taken at the University of Maryland.

3. Prospective candidates must pass preliminary written and oral examinations covering various fields of their major and minor subjects before admission to candidacy. Consult the head of the department for details.

FOR GRADUATES AND ADVANCED UNDERGRADUATES

A. American History

H. 5, 6, 7, or equivalent, are prerequisite for courses H. 101 to H. 142, inclusive.

- H. 101. American Colonial History (3). Fall quarter. Baker-Crothers.
- H. 103. The American Revolution (3). Winter quarter. Baker-Crothers.

- H. 105, 106. Social and Economic History of the United States to 1860 (3, 3). Three hours a week, fall and winter quarters.
Baker-Crothers.
- H. 115. The Old South (3). Spring quarter. Gewehr.
- H. 116. The American Civil War (3). Summer quarter. Stamp.
- H. 117. Reconstruction and the New South (3). Fall quarter. Stamp.
- H. 121, 122. History of the American Frontier (3, 3). Three hours a week, fall and winter quarters. Gewehr.
- H. 125. The United States in the Twentieth Century (3). (Not offered in 1943-1944.) Gewehr.
- H. 127, 128. Diplomatic History of the United States (3, 3). Three hours a week, spring quarter. (Part 128 will not be offered in 1943-1944.) Stamp.
- H. 129. The United States in World Affairs (3). Spring quarter. Gewehr.
- H. 133, 134. The History of American Ideas (3, 3). Three hours a week. Fall and winter quarters. Hofstadter.
- H. 135 a, b, c. Constitutional History of the United States (9). Three hours a week. (Not offered in 1943-1944.)
- H. 141, 142. History of Maryland (3, 3). Three hours a week. (Not offered in 1943-1944.) Baker-Crothers.
- H. 145, 146. Latin American History (3, 3). Three hours a week. Prerequisites, 9 hours of fundamental courses. (Not offered in 1943-1944.)

B. European History

- H. 151, 152. History of the Ancient Orient and Greece (3, 3). Three hours a week. (Not offered in 1943-1944.)
- H. 153. History of Rome (3). Summer quarter. Holm.
- H. 155, 156, 157. Medieval Civilization (3, 3, 3). Three hours a week, fall and winter quarters. (Part 157 will not be offered in 1943-1944.) Prerequisites, H. 1 a, b, c, or the permission of the instructor. Holm.
- H. 161, 162. The Foundations of Modern Culture (3, 3). Three hours a week. (Not offered in 1943-1944.) Holm.
- H. 165, 166. Revolutionary and Napoleonic Europe (3, 3). Three hours a week. Prerequisites H. 1a, b, c, or equivalent. (Not offered in 1943-1944.) Silver.
- H. 171, 172, 173. Europe in the Nineteenth Century, 1815-1919 (3, 3, 3). Three hours a week, fall and spring quarters. (Part 173 will not be offered in 1943-1944.) Prerequisites, H. 1a, b, c, or equivalent. Prange.
- H. 175, 176. Europe in the Twentieth Century (3, 3). Three hours a week. Prerequisites, H. 1a, b, c, or equivalent. (Not offered in 1943-1944.)

- H. 179, 180. **Diplomatic History of Europe Since 1871** (3, 3). Three hours a week. Prerequisites, H. 1a, b, c, or equivalent. (Not offered in 1943-1944.)
- H. 181, 182. **History of Central Europe** (3, 3). Three hours a week. Prerequisites, H. 1a, b, c, or equivalent. (Not offered in 1943-1944.) Prange.
- H. 185, 186, 187. **History of the British Empire** (3, 3, 3). Three hours a week, fall, winter and spring quarters. Prerequisites, H. 1a, b, c, or equivalent. Silver.
- H. 191, 192. **History of Russia** (3, 3). Three hours a week. Prerequisites, H. 1a, b, c, or equivalent. (Not offered in 1943-1944.)
- H. 193, 194. **History of the Near East** (3, 3). Three hours a week. Prerequisites, H. 1a, b, c, or equivalent. (Not offered in 1943-1944.)
- H. 195. **The Far East** (3). (Not offered in 1943-1944.) Gewehr.
- H. 199. **Proseminar in Historical Writing** (3). Three periods a week. Arranged. Hofstadter.

FOR GRADUATES

- H. 200. **Research** (3-6). Credit apportioned to amount of work. Arranged. Staff.
- H. 201. **Seminar in American History** (2). Arranged. Staff.
- H. 211. **The Colonial Period in American History** (3). Arranged. Baker-Crothers.
- H. 215. **The Old South** (3). Arranged. Gewehr.
- H. 216. **The American Civil War** (3). Arranged. Gewehr.
- H. 221. **History of the West** (3). Arranged. Gewehr.
- H. 233. **Topics in American Intellectual History** (3). Arranged. Hofstadter.
- H. 250. **Seminar in European History** (2). Arranged. Staff.
- H. 255. **Medieval Culture and Society** (3). Arranged. Holm.
- H. 281. **Topics in the History of Central Europe** (3). Arranged. Prange.
- H. 285. **Topics in the History of Modern England and Greater Britain** (3). Arranged. Silver.
- H. 297. **Historians and Historical Criticism** (3). Arranged. Holm.

HOME ECONOMICS

A. Textiles

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- H. E. 110, 111. **Advanced Textiles** (6). One recitation and two laboratory periods a week, fall and winter; spring and summer quarters. Prerequisites, H. E. 10, Chem. 13, 14, 15, 16. Genger.

H. E. 112. Consumer Problems in Textiles (3). Two recitations and one laboratory period a week, summer and winter quarters. Prerequisite, H. E. 10, or consent of the instructor. Genger.

H. E. 113. Problems in Textiles (3). One recitation and two laboratory periods a week, winter quarter. Prerequisite, H. E. 110. Genger.

B. Clothing

FOR GRADUATES AND ADVANCED UNDERGRADUATES

H. E. 120. Pattern Design (2). One recitation and one laboratory period a week, winter and summer quarters. Prerequisite, H. E. 20A or 20B. Mitchell.

H. E. 121. Children's Clothing (3). Three laboratory periods a week, fall and summer quarters. Prerequisites, H. E. 20A or 20B. Mitchell.

H. E. 122, 123. Advanced Clothing (6). Three laboratory periods a week, fall and winter; spring and summer quarters. Prerequisites, H. E. 71, or equivalent. McFarland.

H. E. 124. Tailoring (3). Three laboratory periods a week, fall and spring quarters. Prerequisites, H. E. 20A or 20B. Mitchell.

H. E. 125. Problems in Clothing (3). One recitation and two laboratory periods a week, spring quarter. Prerequisites, H. E. 122, 125.

C. Practical Art

FOR GRADUATES AND ADVANCED UNDERGRADUATES

H. E. 170. Interior Design (5). Two lectures and three laboratory periods a week, fall, winter and spring quarters. Prerequisites, H. E. 20, or equivalent. Brown.

H. E. 172. Advanced Interior Design (3). Three laboratory periods a week, winter and spring quarters. Prerequisites, H. E. 70, 170, or equivalent. Curtiss.

H. E. 173. Advanced Costume Design (3). Three laboratory periods a week, winter quarter. Prerequisites, H. E. 70, 71, or equivalent. Edwards.

H. E. 174. Merchandise Display (3). Three laboratory periods a week, fall, winter, spring and summer quarters. Prerequisites, H. E. 20, or equivalent. Curtiss.

H. E. 175. Advanced Merchandise Display (3). Three laboratory periods a week, fall, winter, spring and summer quarters. Prerequisites, H. E. 70, H. E. 174. Curtiss.

H. E. 176. Advertising Layout and Store Coordination (3). Three laboratory periods a week, fall quarter. Prerequisites, H. E. 70, or equivalent. Curtiss.

H. E. 178. Radio in Retailing (3). Spring quarter. Prerequisites, Speech 1, 2, Eng. 1, 2, 3, Jour. 1, Econ. 150, H. E. 174. Curtiss.

- H. E. 185, 186. Individual Problems in Design (6). Fall and winter; spring and summer quarters. H. E. 70, 71, 170, 172, 173, must precede or parallel this course. Curtiss.

D. Home and Institutional Management

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- H. E. 150, 151, 152. Management of the Home (9). Two lectures and one laboratory period a week, fall, winter and spring quarters. Caples.
- H. E. 153. Practice in Management of the Home (3). Fall, winter, spring and summer quarters. Prerequisites, H. E. 150, 151, 152. Caples.
- H. E. 160. Institution Organization and Management (3). Two lectures and one laboratory period a week, fall quarter. Prerequisites, H. E. 31, 32, 33, 150, 151, 152, 153. The last three may be taken concurrently. Mack.
- H. E. 161. Institution Equipment and Food Purchasing (4). Three lectures and one laboratory period a week, winter quarter. Mack.
- H. E. 162. Accounting and Food Control (3). Two lectures and one laboratory period a week, spring quarter. Mack.
- H. E. 163. Institution Cookery (5). Two recitations and three laboratory periods a week, fall, winter, spring, and summer quarters. Prerequisites, H. E. 31, 32, 33, 131, 135. Mack.
- H. E. 165. The School Lunch (3). Two lectures and one laboratory period a week, spring and summer quarters. Prerequisites, H. E. 31, 32, 33, 135. Caples.
- H. E. 166. Advanced Institution Management (3). Two recitations and one laboratory period a week, spring quarter. Prerequisites, H. E. 160, 161, 162. Mount.

E. Foods and Nutrition

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- H. E. 130. Food Economics (2). One recitation and one laboratory period a week, fall, winter and summer quarters. Prerequisites, H. E. 31, 32, 331. Murray, Brown.
- H. E. 131. Meal Service (3). One recitation and two laboratory periods a week, fall, winter, spring, and summer quarters. Prerequisites, H. E. 31, 32, 33. Murray, Brown.
- H. E. 132. Demonstrations (3). Two laboratory periods a week, spring and summer quarters. Prerequisites, H. E. 10, 31, 32, 33. Welsh.
- H. E. 133. Experimental Foods (5). Two recitations and three laboratory periods a week, fall, spring, and summer quarters. Prerequisites, H. E. 31, 32, 33, 130, 131, Chem. 13, 14, 15, 16. Brown.
- H. E. 134. Advanced Foods (5). Two recitations and three laboratory periods a week, fall, spring, and summer quarters. Prerequisites, H. E. 31, 32, 33. Welsh.

- H. E. 135. Nutrition (5). Fall, winter, and summer quarters. Prerequisite, H. E. 31, 32, 33, Chem. 13, 14, 15, 16. Welsh.
- H. E. 136. Dietetics (5). Three recitations and two laboratory periods a week, fall, winter and summer quarters. Prerequisite, H. E. 135. Neylan.
- H. E. 137. Diet in Disease (5). Four recitations and one laboratory period a week, fall and winter quarters. Prerequisite, H. E. 131. Hagel.
- H. E. 138. Child Nutrition (4). Three recitations and one laboratory period a week, fall and spring quarters. Prerequisite, H. E. 135. Neylan.

FOR GRADUATES

- H. E. 230. Readings in Nutrition (3). Fall and spring quarters. Welsh.
- H. E. 231. Seminar in Nutrition (3). Winter and summer quarters. Staff.
- H. E. 232. Advanced Experimental Foods (5). Two recitations and three laboratory periods a week, winter and summer quarters. Brown.
- H. E. 233. Seminar in Food Preparation (3-5). Spring quarter. Brown.
- H. E. 234. Research. Credit to be determined by amount and quality of work done.

F. Home Economics Extension Methods

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- H. E. 190. Methods in Home Economics Extension (3). Spring quarter. Kellar and Assistants.

HORTICULTURE

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Hort. 101, 102. Technology of Horticultural Plants—Fruits (3, 3). Three hours a week, fall and winter quarters. Prerequisite, Plt. Phys. 101. Haut.
- Hort. 103, 104. Technology of Horticultural Plants—Vegetables (3, 3). Three hours a week, fall and winter quarters. Prerequisite, Plt. Phys. 101. Mahoney.
- Hort. 105. Technology of Horticultural Plants—Ornamentals (3). Fall and winter quarters. Prerequisite, Plt. Phys. 101. Fossum.
- Hort. 106. World Fruits and Nuts (3). Winter and spring quarters. Haut.
- Hort. 107. Plant Materials (2). One lecture and one laboratory period a week, fall quarter. Thurston.

- Hort. 108. Plant Materials (2).** One lecture and one laboratory period a week, winter quarter. Thurston.
- Hort. 109. Plant Materials (2).** One lecture and one laboratory period a week, spring quarter. Thurston.
- Hort. 112. Canning Crops Technology (4).** Three lectures and one laboratory period a week, fall quarter. Given in alternate years. Mahoney, Walls.
- Hort. 114. Systematic Pomology (3).** Two lectures and one laboratory period a week, fall quarter. Given in alternate years. Haut.
- Hort. 116. Systematic Olericulture (3).** Two lectures and one laboratory period a week, summer quarter. Walls.

FOR GRADUATES

- Hort. 201. Experimental Pomology (3).** Fall and winter quarters. Prerequisite, Plt. Phys. 101. Schrader.
- Hort. 202. Experimental Pomology (3).** Spring and summer quarters. Prerequisite, Plt. Phys. 101. Schrader.
- Hort. 203. Experimental Olericulture (3).** Fall and winter quarters. Prerequisite, Plt. Phys. 101. Mahoney.
- Hort. 204. Experimental Olericulture (3).** Spring and summer quarters. Prerequisite, Plt. Phys. 101. Mahoney.
- Hort. 205. Experimental Pomology (3).** Spring quarter. A continuation of Hort. 201, 202. Schrader.
- Hort. 206. Experimental Olericulture (3).** Spring quarter. Prerequisite, Zool. 120, Plt. Phys. 101, or equivalents. Mahoney.
- Hort. 207. Methods of Horticultural Research (3).** Two lectures and one laboratory period a week, fall and winter quarters. Staff.
- Hort. 208. Research.** Credit given according to work done. Staff.
- Hort. 209. Seminar (1).** Fall, winter, and spring quarters. Staff.

MATHEMATICS

A. Algebra

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Math. 100, 101, 102. Higher Algebra (9).** Three hours a week, summer, fall and winter quarters. Hall.
- Math. 103, 104. Introduction to Modern Algebra (6).** Three hours a week, spring and summer quarters, 1944. Prerequisite, Math. 22, or equivalent.

FOR GRADUATES

- Math. 200, 201, 202. Algebra (9).** Part 202, summer quarter, 1943. Parts 200, 201, winter and spring quarters, 1945. Alternate year course. Jackson.

B. Analysis

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Math. 110, 111, 112. **Advanced Calculus (9).** Three hours a week, summer, fall, and winter quarters. Prerequisite, Math. 22, or equivalent. Martin.
- Math. 113, 114. **Differential Equations (6).** Three hours a week. Prerequisite, Math. 22, or equivalent. (Not offered in 1943-1944.) Newell.

FOR GRADUATES

- Math. 210, 211, 212. **Functions of a Complex Variable (9).** Three hours a week, summer, fall, and winter quarters. Prerequisites, Math. 110, 111, 112, or equivalent. Newell.
- Math. 213, 214, 215. **Functions of a Real Variable (9).** Three hours a week. Prerequisites, Math. 110, 111, 112, or equivalent. (Not offered in 1943-1944.) Hall.
- Math. 241. **Selected Topics in Analysis (3).** Arranged. Martin, Newell.

C. Geometry

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Math. 120, 121. **Advanced Analytic Geometry (6).** Three hours a week. Prerequisite, Math. 22, or equivalent. (Not offered in 1943-1944.) Dantzig.
- Math. 123, 124. **Introduction to Projective Geometry (6).** Three hours a week, winter and spring quarters. Prerequisite, Math. 22, or equivalent. Jackson.
- Math. 126, 127. **Introduction to Differential Geometry (6).** Three hours a week, summer and fall quarters. Prerequisite, Math. 22, or equivalent. Vanderslice.

FOR GRADUATES

- Math. 220, 221. **Differential Geometry (6).** Three hours a week. Prerequisite, Math. 123, 124, or equivalent. (Not offered in 1943-1944.) Jackson.
- Math. 223, 224. **Topology (6).** Three hours a week, winter and spring quarters. Prerequisite, Math. 110, 111, 112, or equivalent. Hall.
- Math. 242. **Selected Topics in Geometry and Topology.** Arranged. Hall, Jackson.

D. Applied Mathematics

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Math. 130, 131, 132. **Analytic Mechanics (9).** Three hours a week. Prerequisite, Math. 22, or equivalent. (Not offered in 1943-1944.) Martin.

- Math. 133, 134. **Vector Analysis (6)**. Three hours a week, winter and spring quarters. Prerequisite, Math. 22, or equivalent. Dantzig.
- Math. 135, 136. **Probability (6)**. Three hours a week. Prerequisite, Math. 22, or equivalent. (Not offered in 1943-1944.) Vanderslice.
- Math. 137, 138. **Mathematical Statistics (6)**. Three hours a week, winter and spring quarters. Prerequisite, Math. 22, or equivalent. Vanderslice.

FOR GRADUATES

- Math. 230, 231, 232. **Applied Mathematics (9)**. Three hours a week, spring, summer and fall quarters of 1944. Martin.
- Math. 233, 234. **Tensor Analysis (6)**. Three hours a week. Prerequisite, Math. 126, 127, or equivalent. (Not offered in 1943-1944.) Vanderslice.
- Math. 243. **Selected Topics in Applied Mathematics (3)**. Arranged. Martin, Vanderslice.

E. Seminar and Research

FOR GRADUATES

- Math. 250, 251. **Seminar in the History of Mathematics (4)**. Two hours a week, summer and fall quarters. Dantzig.
- Math. 260. **Colloquium**. Fall, winter and spring quarters.
- Math. 270. **Research**.

MODERN LANGUAGES

A. French

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- French 101. **French Literature of the Sixteenth Century (3)**. Fall quarter. Falls.
- French 104. **French Literature of the Seventeenth Century (5)**. Winter quarter. Wilcox.
- French 107. **French Literature of the Eighteenth Century (5)**. Spring quarter. Falls.
- French 110. **French Literature of the Nineteenth Century (5)**. Summer quarter. Wilcox.
- French 113. **French Literature of the Twentieth Century (5)**. Fall quarter. Lotiard.
- French 120. **Advanced Composition (3)**. Three hours a week, winter and spring quarters. Prerequisites, French 60, 61. Falls.

FOR GRADUATES

- French 201. **Research**. Credits determined by work accomplished. Staff.

- French 202. Diderot and the Encyclopaedists (5). Summer quarter. Falls.
- French 204. Georges Duhamel, Poet, Dramatist, Novelist (5). Fall quarter. Falls.
- French 205. French Literature of the Middle Ages and the Renaissance (5). Winter quarter. Correa.
- French 207. The French Novel in the First Half of the Nineteenth Century (5). Spring quarter. Falls.
- French 209. The French Novel in the Second Half of the Nineteenth Century (5). Summer quarter. Falls.
- French 213. Introduction to Old French (3). Falls.
- French 215. Seminar. Arranged. Staff.
- French 221, 222. Reading Course. Arranged. Falls.

B. German

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- German 107. German Literature of the Eighteenth Century (5). Fall quarter. Prahl.
- German 110. German Literature of the Nineteenth Century (5). Winter quarter. Prahl.
- German 113. Contemporary German Literature (5). Spring quarter. Prahl.

FOR GRADUATES

- German 201. Research. Credit determined by work accomplished. Staff.
- German 202. The Modern German Drama (5). Fall quarter. Prahl.
- German 203. Schiller (5). Winter quarter. Prahl.
- German 204. Goethe's *Faust* (3). Fall quarter. Zucker.
- German 205. Goethe's Works Outside of *Faust* (3). Winter quarter. Zucker.
- German 206. The Romantic Movement (5). Spring quarter. Prahl.
- German 210. Seminar. Arranged. Staff.
- German 214. Middle High German (5). Fall quarter. Mutziger.
- German 220, 221. Reading Course. Arranged. Prahl.
- German 231. Introduction to Indo-European Linguistics (5). Spring quarter. Mutziger.

C. Spanish

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Spanish 101. Epic and Ballad (3). Fall quarter. Correa.
- Spanish 104. The Spanish Drama (5). Winter quarter. Correa.
- Spanish 110. Spanish Literature of the Nineteenth Century (5). Spring quarter. Correa.

- Spanish 113. Modern Spanish Literature (5). Summer quarter. Correa.
 Spanish 115. Cervantes (5). Fall quarter. Correa.
 Spanish 120. Advanced Composition (3). Winter quarter. Prerequisite, Spanish 60, or the consent of the instructor. Correa.
 Spanish 125. Lope de Vega (3). Spring quarter. Correa.
 Spanish 135. Galdós (3). Summer quarter. Correa.
 Spanish 151. Latin-American Literature (5). Fall quarter. Correa.

FOR GRADUATES

- Spanish 201. Research. Credit determined by work accomplished. Correa.
 Spanish 202. The Golden Age in Spanish Literature (5). Winter quarter. Correa.
 Spanish 203. Spanish Poetry (3). Spring quarter. Correa.
 Spanish 204. Spanish Poetry (3). Summer quarter. Correa.
 Spanish 210. Seminar. Arranged. Correa.
 Spanish 213. Introduction to Old Spanish (3). Spring quarter. Rand.
 Spanish 220, 221. Reading Course. Arranged. Correa.

PHILOSOPHY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Phil. 181, 182, 183, 184. Proseminar in Philosophy (2, 2, 2, 2). Two hours a week, summer, fall, winter, and spring quarters. Marti.
 Phil. 191, 192, 193, 194. Readings in Philosophy (2, 2, 2, 2). Two hours a week, summer, fall, winter and spring quarters. Prerequisites, three courses in philosophy and permission of the Department of Philosophy. Marti.

PHYSICS

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Physics 104. Advanced Experiments (3). One lecture and two laboratory periods a week. Prerequisites, Phys. 1, 2. (Not offered in 1943-1944.)
 Physics 105. Heat (5). Three lectures and two laboratory periods a week, fall quarter; repeated every third quarter. Prerequisites, Phys. 1, 2 and Math. 20. Myers.
 Physics 106, 107. Theoretical Mechanics (6). Three hours a week, fall and winter quarters. Prerequisites, Phys. 1, 2 and Math. 20. Morgan.
 Phys. 108. Optics (5). Three lectures and two laboratory periods a week, spring quarter; repeated every third quarter. Prerequisites, Phys. 1, 2 and Math. 20. Myers.

- Phys. 109, 110. Electricity (10). Two lectures and two laboratory periods a week, spring and summer quarters. Prerequisites, Phys. 1, 2 and Math. 20. Morgan.
- Phys. 111. Sound (5). Three lectures and two laboratory periods a week, winter quarter; repeated every third quarter. Prerequisites, Phys. 1, 2 and Math. 20. Myers.
- Phys. 112, 113, 114. Electron Physics (9). Two lectures and one laboratory period a week. Prerequisites, Phys. 1, 2 and Math. 20. (Not offered in 1943-1944.)
- Phys. 117, 118. Applied Mechanics (6). Three hours a week, fall and winter quarters. Prerequisites, Phys. 3, 4, 5. Fisher.
- Phys. 119, 120, 121. High Frequency Phenomena (9). Two lectures and one laboratory period a week. Prerequisites, Phys. 1, 2 and Math. 20.

FOR GRADUATES

- Phys. 201, 202, 203. Dynamics (9). Three hours a week. (Not offered in 1943-1944.)
- Phys. 204, 205. Electrodynamics (4). Two hours a week. (Not offered in 1943-1944.)
- Phys. 206, 207. Physical Optics (4). Two hours a week. (Not offered in 1943-1944.)
- Phys. 208, 209, 210. Thermodynamics (6). Two hours a week, fall, winter and spring quarters. Brickwedde.
- Phys. 211, 212, 213. X-Rays and Crystal Structure (9). Three hours a week, fall, winter and spring quarters. Morgan.
- Phys. 217, 218, 219. Quantum Mechanics (9). Three hours a week, fall, winter and spring quarters. Myers.
- Phys. 220. Application of X-Ray and Electron Diffraction Methods (4). Two laboratory periods a week, winter and spring quarters. Morgan.
- Phys. 221, 222, 223. Statistical Mechanics and the Kinetic Theory of Gases (6). Two hours a week. (Not offered in 1943-1944.)
- Phys. 227. Seminar (1). Fall, winter and spring quarters. Staff.

POLITICAL SCIENCE

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Pol. Sci. 102. International Law (3). Winter and summer quarters. Prerequisite, Pol. Sci. 1. Steinmeyer.
- Pol. Sci. 105. Recent Far Eastern Politics (3). Fall and spring quarters. Prerequisite, Pol. Sci. 1, or consent of instructor. Steinmeyer.
- Pol. Sci. 111. Principles of Public Administration (3). Fall and spring quarters. Prerequisite, Pol. Sci. 4, or consent of instructor. Howard.
- Pol. Sci. 112. Public Personnel Administration (3). Winter quarter. Prerequisite, Pol. Sci. 111, or consent of instructor. Howard.

- Pol. Sci. 114. Public Budgeting (3). Prerequisite, Pol. Sci. 111, or consent of instructor. (Not offered in 1943-1944.)
- Pol. Sci. 117, 118. Government at Work (3, 3). One lecture and two field trips a week. Prerequisites, Pol. Sci. 1 and consent of instructor. (Not offered in 1943-1944.)
- Pol. Sci. 123. Government and Business (3). Prerequisites, Pol. Sci. 1. (Not offered in 1943-1944.)
- Pol. Sci. 124. Legislatures and Legislation (3). Winter quarter. Prerequisite, Pol. Sci. 4.
- Pol. Sci. 126. Government and Social Security (2). Prerequisite, Pol. Sci. 4. (Not offered in 1943-1944.)
- Pol. Sci. 131. Constitutional Law (4). Fall and spring quarters. Prerequisite, Pol. Sci. 1. Long.
- Pol. Sci. 134. Administrative Law (4). Winter and summer quarters. Howard.
- Pol. Sci. 141. History of Political Theory (3). Winter quarter. Prerequisite, Pol. Sci. 1, or consent of instructor.
- Pol. Sci. 142. Recent Political Theory (3). Spring quarter. Prerequisite, Pol. Sci. 1, or consent of instructor.
- Pol. Sci. 144. American Political Theory (3). Summer quarter. Prerequisite, Pol. Sci. 1, or consent of instructor. Long.
- Pol. Sci. 174. American Government in Wartime (3). Fall and summer quarters. Prerequisite, Pol. Sci. 1. Howard.

FOR GRADUATES

- Pol. Sci. 201, 202. Seminar in International Organization (2, 2). Two hours a week, fall and winter quarters. Steinmeyer.
- Pol. Sci. 204. British Empire (3). Spring quarter. Steinmeyer.
- Pol. Sci. 211, 212. Seminar in Federal-State Relations (2, 2). Two hours a week, fall and winter quarters. Howard.
- Pol. Sci. 213. Problems of Public Administration (2). Spring quarter. Howard.
- Pol. Sci. 214. Problems of Personnel Administration (2). Summer quarter. Howard.
- Pol. Sci. 216. Problems of Government in Metropolitan Regions (2). (Not offered in 1943-1944.)
- Pol. Sci. 221. Seminar in Public Opinion (2). (Not offered in 1943-1944.)
- Pol. Sci. 222. Analysis of Propaganda (3). Prerequisite, consent of instructor. (Not offered in 1943-1944.)
- Pol. Sci. 235. Problems in Public Law (2). (Not offered in 1943-1944.)
- Pol. Sci. 251. Bibliography of Political Science (2). (Not offered in 1943-1944.) Staff.
- Pol. Sci. 261. Research. Credit according to work accomplished. Staff.

POULTRY HUSBANDRY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- P. H. 104. Poultry Marketing Problems (3). Three lecture, demonstration and quiz periods a week, fall quarter. Gwin.
- P. H. 105. Egg Marketing Problems (3). Three lecture, demonstration and quiz periods a week, winter quarter. Gwin.
- P. H. 107. Poultry Industrial and Economic Problems (3). Fall quarter. Staff.
- P. H. 108. Special Poultry Problems (1-2). Assigned problems, fall, winter and spring quarters. Staff.

FOR GRADUATES

- P. H. 201. Advanced Poultry Genetics (3). Spring quarter. Prerequisite, P. H. 51 or equivalent. Jull.
- P. H. 202. Advanced Poultry Nutrition (3). Two lectures and one laboratory period a week, spring quarter. Prerequisite, P. H. 52, or equivalent. Bird.
- P. H. 203. Physiology of Reproduction of Poultry (3). Two lectures and one laboratory period a week, fall quarter. Prerequisite, P. H. 56, or equivalent. Phillips.
- P. H. 204. Seminar (1). Fall, winter and spring quarters. Staff.
- P. H. 205. Poultry Literature (1-4). Fall, winter and spring quarters. Staff.
- P. H. 206. Research. Credit in accordance with work done. Staff.

PSYCHOLOGY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Psych. 150. Advanced Social Psychology (3). Prerequisites, Psych. 16 and 19, or consent of instructor. Edwards.
- Psych. 155. Psychology of Personality (3). Fall and summer quarters. Prerequisite Psych. 19, or consent of instructor. Edwards.
- Psych. 156. Psychological Problems of the War Situation (3). Summer quarter. Prerequisite, one course in psychology. Sprowls.
- Psych. 159. Psychology of Propaganda (3). Fall and spring quarters. Prerequisite, Psych. 150 or consent of instructor. Edwards.
- Psych. 160. Psychology of Personnel (3). Winter quarter. Prerequisites, Psych. 16 and 19, or consent of instructor. Clark.
- Psych. 161. Advanced Psychology of Personnel (3). Spring quarter. Prerequisite, Psych. 160. Clark.
- Psych. 170. Abnormal Psychology (3). Two lectures and one clinic, spring quarter. Prerequisites, Psych. 17, 19, or consent of instructor. Sprowls.

- Psych. 172. Psychological Tests and Measurements (5). Two lectures and one laboratory, fall and spring quarters. Prerequisite, Psych 19. Thurston.
- Psych. 174. Advanced Psychological Testing (3). Spring quarter. Prerequisite, Psych. 172. Weckler.
- Psych. 183. Genetic Psychology (3). Spring quarter. Prerequisite, Psych. 19. Edwards.
- Psych. 186. Advanced Educational Psychology (3). Spring quarter. Prerequisite, Psych. 80. Sprowls.
- Psych. 190. Techniques of Investigation in Psychology (3). Winter quarter. Prerequisite, Psych. 19. Weckler.
- Psych. 192. Psychology of Early Man (3). Winter and summer quarters. Prerequisite, Psych. 19. Sprowls.
- Psych. 194. The History of Psychology (3). Fall quarter. Prerequisite, Psych. 19. Weckler.
- Psych. 195. Minor Problems in Psychotechnology (3). Fall, winter and spring quarters. Prerequisite, Psych. 190. Staff.
- Psych. 199. Contemporary Problems in Psychology (3). Fall, winter and spring quarters. Clark.

FOR GRADUATES

- Psych. 200. Research in Psychotechnology. Credit apportioned to work done. Staff.
- Psych. 255. Seminar: Psychology of Civilian Morale in Wartime. Winter and spring quarters. Credit may be obtained in either or both quarters. Sprowls.
- Psych. 270. Participation in Testing Clinic. Fall, winter, spring and summer quarters. Credit may be obtained for one, two or three quarters; at least two quarters' registration is desirable. Thurston, Clark.
- Psych. 290. Seminar in Current Psychotechnological Problems. Fall, winter, spring and summer quarters. Staff.

SOCIOLOGY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Soc. 101. Social Stratification (3). Fall quarter. Prerequisite, Soc. 3, or consent of instructor. Mills.
- Soc. 103. Rural Sociology (3). Spring quarter. Holt.
- Soc. 104. Urban Sociology (3). Winter quarter. Holt.
- Soc. 105. Population Problems (3). Winter quarter. Prerequisite, Soc. 3, or consent of instructor. Holt.
- Soc. 106. Regional Sociology (3). Winter quarter. Prerequisite, Soc. 3, or consent of instructor. Dodson.

- Soc. 107. **Ethnic Minority Groups (3).** Summer and winter quarters. Prerequisite, Soc. 3, or consent of instructor. Lejins.
- Soc. 108. **World Population Problems (3).** Spring quarter. Prerequisite, Soc. 105, or consent of instructor. Holt.
- Soc. 109. **World Survey of Rural Social Organization (3).** Spring quarter. Prerequisite, Soc. 103, or consent of instructor. Holt.
- Soc. 110. **Sociology of the Professions (3).** Winter quarter. Prerequisite, Soc. 3, or consent of instructor. Mills.
- Soc. 112. **Sociology of Communication (3).** Fall quarter. Prerequisite, Soc. 3, or consent of instructor. Mills.
- Soc. 120. **Community Disorganization (3).** Winter quarter. Prerequisite, Soc. 52, or consent of instructor. Dodson.
- Soc. 121. **Community Welfare Planning (3).** Spring quarter. Prerequisite, Soc. 120, or consent of instructor. Dodson.
- Soc. 122. **Community Leadership (3).** Spring quarter. Prerequisite, Soc. 3, or consent of instructor. Dodson.
- Soc. 123. **Public Welfare Services (3).** Winter quarter. Prerequisites, Soc. 71 and 81. Joslyn.
- Soc. 124. **Public Welfare Administration (3).** Spring quarter. Prerequisite, Soc. 125, or consent of instructor. Joslyn.
- Soc. 125. **Sociology of War (3).** Summer and spring quarters. Lejins.
- Soc. 126. **Juvenile Delinquency (3).** Spring quarter. Prerequisite, Soc. 72, or consent of instructor. Lejins.
- Soc. 127. **Community Programs of Crime Control (3).** Winter quarter. Prerequisite, Soc. 72, or consent of instructor. Lejins.
- Soc. 128. **Institutional Treatment of Criminals and Delinquents (3).** Spring quarter. Prerequisite, Soc. 72, or consent of instructor. Lejins.
- Soc. 130. **Recent Social Thought (3).** Winter and summer quarters. Prerequisite, Soc. 3, or consent of instructor. Mills.
- Soc. 135. **Sociology of Law (3).** Spring quarter. Prerequisite, Soc. 3, or consent of instructor. Lejins.
- Soc. 136. **Sociology of Religion (3).** Fall quarter. Prerequisite, Soc. 3, or consent of instructor. Holt.
- Soc. 140. **Design of Investigation in Sociology (3).** Prerequisite, Soc. 3, or consent of instructor. (Not offered in 1943-1944.) Joslyn.
- Soc. 141. **Introduction to Social Research and Statistics (3).** Fall and spring quarters. Prerequisite, Soc. 3, or consent of instructor. Holt.
- Soc. 142. **Statistical Problems in Social Analysis (3).** Winter quarter. Prerequisite, Soc. 141, or consent of instructor. Holt.
- Soc. 150. **Field Practice in Social Work (3).** Summer, fall, winter and spring quarters. Prerequisite, Soc. 81, or consent of instructor. Joslyn.

FOR GRADUATES

- Soc. 200. Seminar in Methodology (3). Fall and spring quarters. Required of all graduate students in Sociology. Staff.
- Soc. 201. Seminar in Systematic Sociology (3). Fall quarter. Joslyn.
- Soc. 202. Sociological Theory (3). Fall quarter. Mills.
- Soc. 203. Sociology of Knowledge (3). Summer and winter quarters. Mills.
- Soc. 204. Social Organization (3). Fall and spring quarters. Joslyn.
- Soc. 205. Community Organization (3). Fall and spring quarters. Dodson.
- Soc. 206. Comparative Sociology (3). Summer and winter quarters. Mills.
- Soc. 207. Rural-Urban Sociology (3). Fall and spring quarters. Holt.
- Soc. 210. Special Problems of Population (3). Winter quarter. Holt.
- Soc. 211. Advanced Regional Sociology (3). Winter quarter. Dodson.
- Soc. 215. Seminar in Sociology of the Professions (3). Summer and winter quarters. Mills.
- Soc. 216. Sociology of the Family (3). Summer and winter quarters. Lejins.
- Soc. 217. Seminar in the Sociology of Law (3). Spring quarter. Lejins.
- Soc. 218. Sociological Problems of Leadership (3). Fall and spring quarters. Dodson.
- Soc. 221. Advanced Criminology (3). Summer and winter quarters. Lejins.
- Soc. 222. Recent Criminological Theories (3). Spring quarter. Lejins.
- Soc. 223. Juvenile Delinquency (3). Winter quarter. Lejins.
- Soc. 250. Research. Credit apportioned to work accomplished. Staff.

SPEECH

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Speech 101. Introduction to Radio (3). Two lectures and one laboratory a week, fall, spring and summer quarters. Admission by audition or consent of instructor. Ehrensberger.
- Speech 102. Radio Program Production (3). Laboratory course, spring quarter. Prerequisite, Speech 101, or consent of instructor. Ehrensberger.
- Speech 103. Speech Composition (6). Fall and spring quarters. (Not offered in 1943-1944.) Ehrensberger.
- Speech 104. Speech Pathology (3). Fall quarter. Hutcheson.

- Speech 105. Speech Clinic (3). Two lectures and one laboratory a week, spring quarter. Prerequisite, Speech 104. Hutcheson.
- Speech 106. Advanced Oral Reading (3). Spring quarter. Prerequisite, Speech 10. Provenson.
- Speech 107. Teacher Problems in Speech (5). Summer quarter. Hutcheson.

VETERINARY SCIENCE

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- V. S. 101. Comparative Anatomy (5). Summer and fall quarters.
- V. S. 102. Animal Hygiene (5). Fall and spring quarters.
- V. S. 103. Hematology (2-3). Two or three laboratory periods, fall quarter.
- V. S. 104. Urinalysis (2-3). Two or three laboratory periods, spring quarter.
- V. S. 105. Pathological Technic (3-4). Three or four laboratory periods, fall quarter.
- V. S. 106. Pathological Technic (2-5). Two or three laboratory periods, spring quarter.
- V. S. 107. Poultry Hygiene (4). Three lectures and one laboratory period, spring quarter.
- V. S. 108. Avian Anatomy (4). Three lectures and one laboratory period, fall, winter, spring and summer quarters.

FOR GRADUATES

- V. S. 201. Animal Disease Problems (2-8). Arranged.
- V. S. 202. Animal Disease Research (2-8). Arranged.

ZOOLOGY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Zool. 101. Mammalian Anatomy (3). Three laboratory periods a week, fall and spring quarters. Phillips.
- Zool. 102, 103. General Animal Physiology (6). Two lectures and one laboratory period a week, winter and spring quarters. Either quarter may be taken first, but both quarters must be completed before credit is granted. Phillips.
- Zool. 104. Genetics (3). Fall and winter quarters. Burhoe.
- Zool. 105. Aquiculture (3). Two lectures and one laboratory period a week, fall quarter. Prerequisite, one course in zoology. Truitt.
- Zool. 108. Animal Histology (3). One lecture and two laboratory periods a week, fall and spring quarters. Prerequisite, one course in zoology. Littleford.

- Zool. 120. **Advanced Genetics (3).** One lecture and two laboratory periods a week, winter quarter. Prerequisite, Zool. 104. Burhoe.
- Zool. 121. **Principles of Animal Ecology (3).** Two lectures and one laboratory period a week, fall and spring quarters. Prerequisite, one course in zoology. Tressler.

FOR GRADUATES

- Zool. 200. **Marine Zoology (5).** Three lectures and two laboratory periods a week, fall quarter. Truitt.
- Zool. 201. **Microscopical Anatomy (5).** Three lectures and two laboratory periods a week, fall quarter. Littleford.
- Zool. 203. **Advanced Embryology (5).** Three lectures and two laboratory periods a week, fall quarter. Burhoe.
- Zool. 204. **Advanced Animal Physiology (5).** Three lectures and two laboratory periods a week, winter quarter. Phillips.
- Zool. 205. **Hydrobiology (5).** Three lectures and two laboratory periods a week, spring quarter. Tressler.
- Zool. 206. **Research.** Credit to be arranged. Staff.
- Zool. 207. **Seminar (1).** Summer, fall, winter and spring quarters. Staff.

CHESAPEAKE BIOLOGICAL LABORATORY

This laboratory, located in the center of the Chesapeake Bay country, is on Solomons Island, Maryland. It is sponsored by the University of Maryland in cooperation with the Maryland Conservation Department, Washington College, Johns Hopkins University and Western Maryland College, in order to afford a center for wild life research and study where facts tending toward a fuller appreciation of nature may be gathered and disseminated. The program projects a comprehensive survey of the biota of the Chesapeake region.

The laboratory is open throughout the year. Courses are offered for advanced undergraduate and graduate students, during a six-week summer session, in the following subjects. Economic Zoology, Protozoology Invertebrates, Ichthyology, Algae, and Diatoms. Not more than two courses may be taken by a student, who must meet the requirements of the Department of Zoology as well as those of the laboratory before matriculation. Classes are limited to eight matriculants. Students pursuing special research may establish residence for the summer, or for the entire year.

Laboratory facilities; boats of various types fully equipped with pumps, nets, dredges and other apparatus; and shallow water collecting devices, are available for the work without cost to the students.

For further information about work at the Chesapeake Biological Laboratory, apply to Dr. R. V. Truitt, Director, College Park, Maryland.

GRADUATE COURSES IN THE PROFESSIONAL SCHOOLS AT BALTIMORE

The courses listed in the professional schools in Baltimore are on the semester basis and the requirements for degrees in these schools will be the same as those described in the 1942-1943 Announcements.

SCHOOL OF MEDICINE

ANATOMY

Minors

- Anat. 101. Human Gross Anatomy (10).** Total number of hours, approximately 350. Six conferences and lectures, Eighteen laboratory hours per week throughout the first semester of every medical school year. Uhlenhuth, Figge, Plagge, Krahl.
- Anat. 102. Mammalian Histology (6).** Two lectures, ten laboratory hours per week, throughout the first semester of every medical school year. Davis, Lutz, Harne.
- Anat. 103. Human Neurology (4).** Three lectures and six laboratory hours per week for ten weeks of the second semester of every medical school year. Prerequisite, Anat. 102, or equivalent. Davis, Lutz, Harne.

Majors

- Anat. 201. Human Gross Anatomy.** Number of credits by arrangement. Same course as Anat. 101, but with additional work of a more advanced nature. Uhlenhuth, Figge.
- Anat. 202. Mammalian Histology.** Number of credits by arrangement. Same course as Anat. 102, but with additional work of a more advanced nature. Davis.
- Anat. 203. Human Neurology.** Number of credits by arrangement. Same course as Anat. 103, but with additional work of a more advanced nature. Prerequisite, Anat. 102 or 202.
- Anat. 204. Research in Embryology, Histology or Neuro-Anatomy.** Credit by arrangement. Open to students majoring in anatomy. Prerequisites, Anat. 201, 202 and 203. Davis.
- Anat. 205. Advanced Anatomy.** Number of hours and credits by arrangement. Prerequisite, Anat. 101 or 201. Uhlenhuth, Figge, Plagge.
- Anat. 206. Research in Gross Anatomy.** Number of hours and credits by arrangement. Prerequisite, Anat. 205. Uhlenhuth, Figge.
- Anat. 207. Comparative Morphology of the Endocrines.** Number of hours and credits by arrangement. Prerequisites, Anat. 201, 202. Uhlenhuth.

- Anat. 208. **Experimental Anatomy of the Endocrines.** Prerequisite, Anat. 207. Uhlenhuth.
- Anat. 209. **Problems in Physiological Anatomy.** Prerequisites, Anat. 201, 202 and either 207 or 208. Uhlenhuth, Figge.

BACTERIOLOGY

Minors

- Bact. 101. **General Bacteriology (5).** Sixteen lectures and 104 laboratory hours.
- Bact. 102. **Immunology (4).** Sixteen lectures and 56 laboratory hours.

Majors

- Bact. 201. **Special Problems.** Time and credit by arrangement.
- Bact. 202. **Research.** Time and credit by arrangement.

BIOCHEMISTRY

Minors

- Biochem. 101. **Principles of Biochemistry (8).** Seven lectures and conferences, and two three-hour laboratory periods a week for sixteen weeks. Prerequisites, inorganic, organic, and quantitative or physical chemistry. Wylie, Schmidt, Ogden, Weiland.

Majors

- Biochem. 201. Prerequisite, Biochem. 101. Credit proportioned to extent and quality of work accomplished. Wylie, Schmidt, Weiland.
- Biochem. 202. **Research.** Credit proportioned to extent and quality of work accomplished. Wylie, Schmidt, Weiland.

PHARMACOLOGY

All students majoring in pharmacology with a view to obtaining the degree of Master of Science or Doctor of Philosophy should secure special training in anatomy, mammalian physiology, organic chemistry, and physical chemistry.

Minors

- Pharmacology 101 f, s. **General Pharmacology (8).** Three lectures and one laboratory. This course consists of 90 lectures and 30 laboratory periods of three hours each, offered each year. Krantz, Carr, Evans, Musser, Harne, Wollenweber.

Majors

Pharmacology 202 f, s. General Pharmacology. Same as 101 for students majoring in pharmacology. Additional instruction and collateral reading are required.

Krantz, Carr, Evans, Musser, Harne, Wollenweber.

Pharmacology 203. Chemotherapy. Credit in accordance with the amount of work accomplished. Krantz.

Pharmacology 204. Carbohydrate Metabolism. Credit in accordance with the amount of work accomplished. Krantz, Carr.

Pharmacology 205. Research. Credit in accordance with the amount of work accomplished. Krantz, Carr.

Pharmacology 206. Special Problems in Toxicology. Credit in accordance with the amount of work accomplished. Evans, Wollenweber.

Pharmacology 207. Anesthesia. Credit in accordance with the work accomplished. Krantz, Carr, Evans.

PHYSIOLOGY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Physiology 101. The Principles of Physiology (8). Four lectures, two conferences, and two laboratory periods a week, for sixteen weeks, supplemented by demonstrations. Amberson and Staff.

FOR GRADUATES

Physiology 201. Experimental Mammalian Physiology. Time and credit by arrangement. Amberson, Smith, Oster, Toman.

Physiology 202. Water and Electrolyte Balance in the Vertebrate Body (1). One lecture a week, for sixteen weeks. Amberson.

Physiology 203. Humoral Control of Physiological Function (1). One lecture a week, for sixteen weeks. Smith.

Physiology 204. Electrophysiology (1). One lecture a week, for sixteen weeks. Oster, Toman.

Physiology 205. Seminar. Credit according to work done. Amberson and Staff.

Physiology 206. Research. By arrangement with the head of the department. Staff.

SCHOOL OF PHARMACY

BACTERIOLOGY

115. Serology and Immunology (4). Two lectures and two laboratory periods a week, spring. Grubb, Scigliano.
- 200 f, s. Chemotherapy (2). One lecture a week, fall and spring. Given in alternate years. Grubb.
- 201 f, s. Special Problems in Bacteriology. Credit according to amount and quality of work performed. Fall and spring. Grubb.
- 221 f, s. Research in Bacteriology. Credit according to amount and quality of work performed. Fall and spring. Grubb.

BOTANY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- 101 f, s. Taxonomy of the Higher Plants (2). One lecture and one laboratory period a week. Given in alternate years. Slama.
- 102 f, s. Plant Anatomy (8). Two lectures and two laboratory periods a week. Slama.

FOR GRADUATES

- 201 f, s. Advanced Study of Vegetable Powders (4-8). Two lectures and two laboratory periods a week. Given in alternate years. Slama.
- Bot. 202 f, s. Advanced Pharmacognosy (4-8). Two lectures and two laboratory periods a week. Slama.
- Bot. 203. Research in Pharmacognosy. Credit according to amount and quality of work performed.

PHARMACEUTICAL CHEMISTRY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Chem. 102 A f, s. Physical Chemistry (6). Three lectures a week, fall and spring. Prerequisites, Chem. 2 f, s and 4, and Physics 1 f, s. Estabrook.
- Chem. 102 B f, s. Physical Chemistry (2-4). One or two laboratory periods a week, fall and spring. Prerequisites, Chem. 102 A f, s, or may be taken simultaneously with 102 A f, s. Estabrook.
- Pharm. Chem. 103 f, s. Physiological Chemistry (8). Two lectures, two laboratory periods a week, fall and spring. Prerequisites, Chem. 1 f, s; 2 f, s; 4; and Physiol. 1. Chapman, Gittinger, Moulton.
- Pharm. Chem. 110 f, s. Chemistry of Medicinal Products (4). Three lectures a week, fall and spring. Prerequisite, Chem. 2 f, s. Hartung.

- Pharm. Chem. 111 f, s. Laboratory Exercises in Chemistry of Medicinal Products (1-4).** Two laboratory periods a week, fall and spring. Prerequisite, Pharm. Chem. 110 f, s, or may be taken simultaneously with Pharm. Chem. 110 f, s. Hartung et al.
- Chem. 117. Organic Laboratory (2).** One laboratory period a week, fall, spring and summer. Prerequisite, Pharm. Chem. 111 f, s. Starkey.
- Chem. 118. Advanced Organic Laboratory (2).** One laboratory period a week. Prerequisite, Pharm. Chem. 111 f, s. Starkey.

FOR GRADUATES

- Pharm. Chem. 200 f, s. Survey of Pharmaceutical Chemistry (4).** Prerequisites, Pharm. Chem. 110 f, s and 111 f, s, or equivalent. Hartung, Starkey.
- Pharm. Chem. 201 f, s. Chemistry of Alkaloids (4).** Two lectures a week, fall and spring. Prerequisites, Pharm. Chem. 110 f, s and 111 f, s, or equivalent. (Not offered in 1943-1944.) Hartung.
- Pharm. Chem. 202. Advanced Pharmaceutical Synthesis (1-8).** Laboratory work and conferences. Prerequisite, Chem. 118. Hartung.
- Pharm. Chem. 203. Pharmaceutical Chemistry Seminar (1).** Hartung et al.
- Pharm. Chem. 204. Advanced Pharmaceutical Analysis (1-4).** Prerequisites, Chem. 117 and Chem. 118. Hartung.
- Pharm. Chem. 205. Research.** Credit to be determined by the amount and quality of work performed. Hartung et al.

PHARMACOLOGY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

- Pharmacology 110. Official Methods of Biological Assay (4).** Two lectures and two laboratory periods a week, fall. Prerequisites, Physiology 1 and Pharmacology 1 f. Chapman.

FOR GRADUATES

- Pharmacology 201 f, s. Methods of Biological Assay (8).** Two lectures and two laboratory periods a week, fall and spring. Prerequisite, Pharmacology 110. Given in alternate years. Chapman.
- Pharmacology 202 f, s. Special Studies in Pharmacodynamics (4-8).** Two lectures and two laboratory periods a week, fall, spring. Prerequisite, Pharmacology 1 f, s. Chapman.
- Pharmacology 203 f, s. Special Studies in Biological Assay Methods (4-8).** Laboratory work and conferences, fall and spring. Prerequisites, Pharmacology 110, Pharmacology 201, f, s. Chapman.
- Pharmacology 204. Research in Pharmacology.** Credit according to amount and quality of work done. Chapman.

PHARMACY

PHARMACY

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Pharmacy 101 f, s. (6). One lecture and two laboratory periods a week.
Prerequisite, consent of the instructor. DuMez, Purdum.

Pharmacy 102 f, s. Advanced Prescription Compounding (2-4). Two
laboratory periods a week. Prerequisite, consent of instructor.
DuMez, Purdum.

FOR GRADUATES

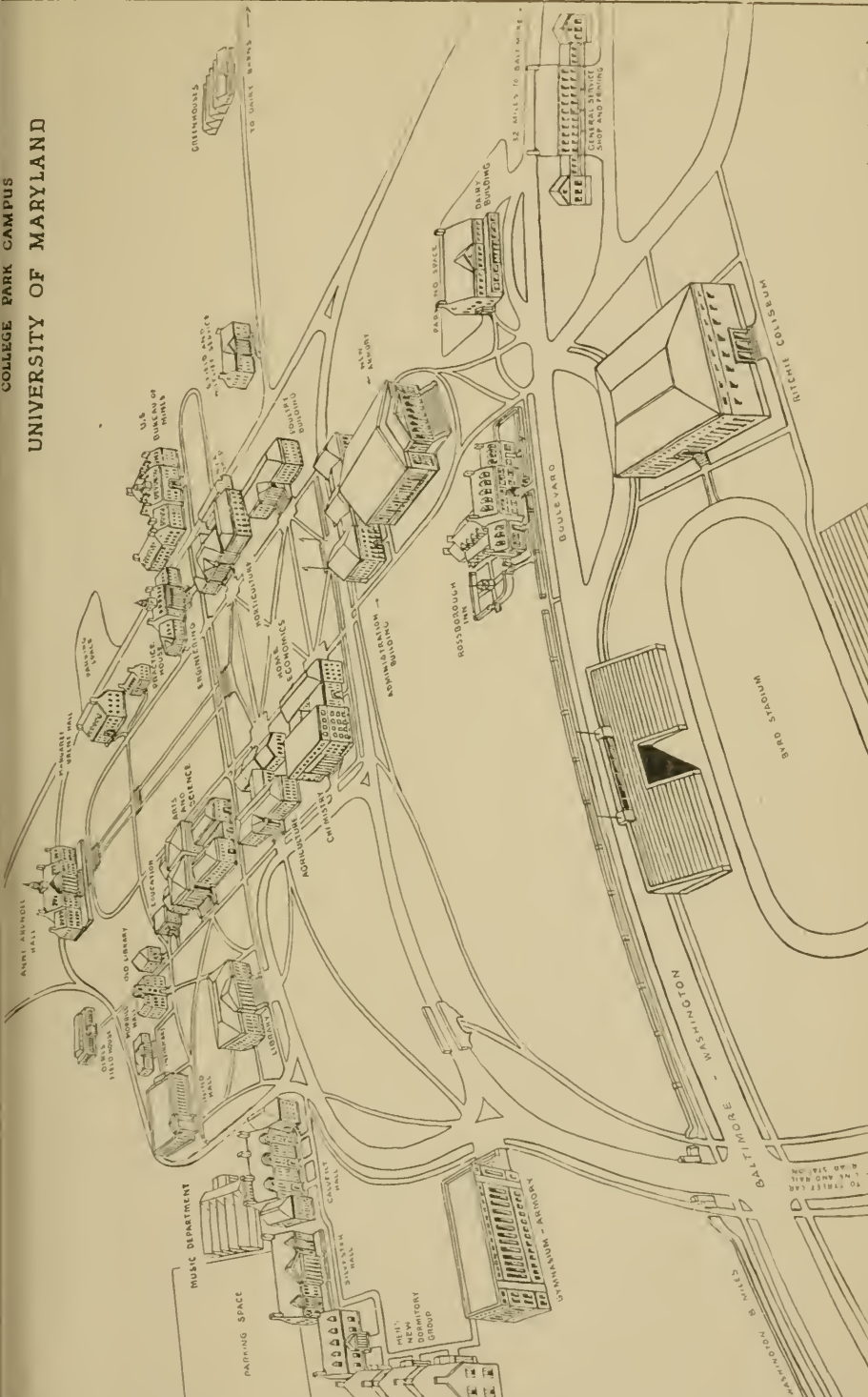
Pharmacy 201 f, s. Advanced Pharmaceutical Technology (8). Two
lectures and two laboratory periods a week. DuMez, Purdum.

Pharmacy 202 f, s. Survey of Pharmaceutical Literature (2). One lec-
ture a week. Given in alternate years. DuMez.

Pharmacy 203 f, s. History of Pharmacy (4). Two lectures a week.
Given in alternate years. DuMez.

Pharmacy 204. Research in Pharmacy. Credit and hours to be ar-
ranged. DuMez.

COLLEGE PARK CAMPUS



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